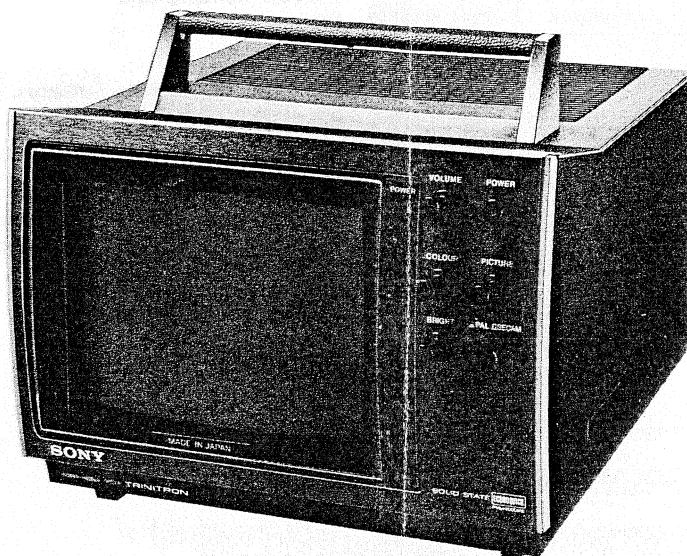


PVM-9000ME

BP-80E

Chassis No. SCC-184A-A



TRINITRON®

COLOUR VIDEO MONITOR

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

SICHERHEITSHINWEIS FÜR KOMPONENTEN !!

DIE IN DEN SCHALTBILDERN, DEN IN EINZELTEILE AUFGELÖSTEN PERSPEKTIVISCHEN ZEICHNUNGEN UND DEN TEILELISTEN SCHRAFFIERT EINGEZEICHNETE UND DURCH DAS ZEICHEN  GEKENNZEICHNETE KOMPONENTEN SIND FÜR DIE BETRIEBSSICHERHEIT KRITISCH. DIESE KOMPONENTEN SIND DURCH SOLCHE SONY TEILE ZU ERSETZEN, DEREN TEILENUMMERN IN DIESEM HANDBUCH ODER IN VON SONY HERAUSGEGEBENEN ERGÄNZUNGEN ANGEZEIGT SIND.

AUF FÜR DIE BETRIEBSSICHERHEIT KRITISCHE SCHALTUNGSEINSTELLUNGEN WIRD IN DIESEM HANDBUCH HINGEWIESEN.

BEFOLGEN SIE DIESE ANWEISUNGEN STETS, WENN KRITISCHE KOMPONENTEN AUSGEWECHSELT WERDEN ODER VERDACHT AUF FUNKTIONSSTÖRUNGEN BESTEHT.

SPECIFICATIONS

Television System:	CCIR system B, G and H
Colour System:	PAL, SECAM
Picture Tube:	22cm, 9" (screen measured diagonally), 70° deflection TRINITRON system
Semiconductors:	60 transistors, 4 ICs and 54 diodes
Sound System:	Output power: 1W (at 10% harmonic distortion) Speaker: 10cm (4 inches) dia., 32Ω
Video System:	R,G,B, cathode drive
Automatic Controls:	ABL (automatic brightness limiter) ACC (automatic colour control) ACK (automatic colour killer) AFC (automatic frequency control) AVR (automatic voltage regulator)

— Continued on page 2 —

SONY®

SERVICE MANUAL



Input/Output

Signal	Connector	Signal Level	Remarks
VIDEO IN	BNC coaxial connector	nominally 1.0Vp-p	PAL SECAM 75Ω, sync negative
VIDEO OUT	BNC coaxial connector	1.0Vp-p composite	
AUDIO IN	Mini jack	-5 dB	50kΩ or more
AUDIO OUT			

0 dB = 0.775V

Anode Voltage: 17.6kV at zero beam current

Hochspannung: 17.6kV bei 0mA Strahlstrom

Power Requirements: 220V or 240V ac adjustable, 50/60Hz
12V or 24V dc

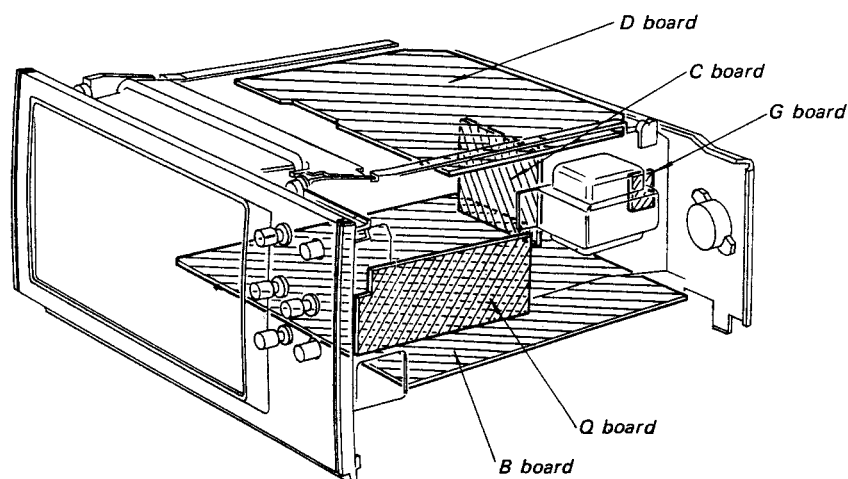
Power Consumption: 45W (max.) ac,
30W (max.) 24V dc,
36W (max.) 12V dc

Dimensions: Approx. 292 (w) x 243 (h) x 366 (d) mm
11½ (w) x 9¾ (h) x 14¾ (d) inches

Net Weight: Approx. 8.8 kg (19 lb 9 oz)

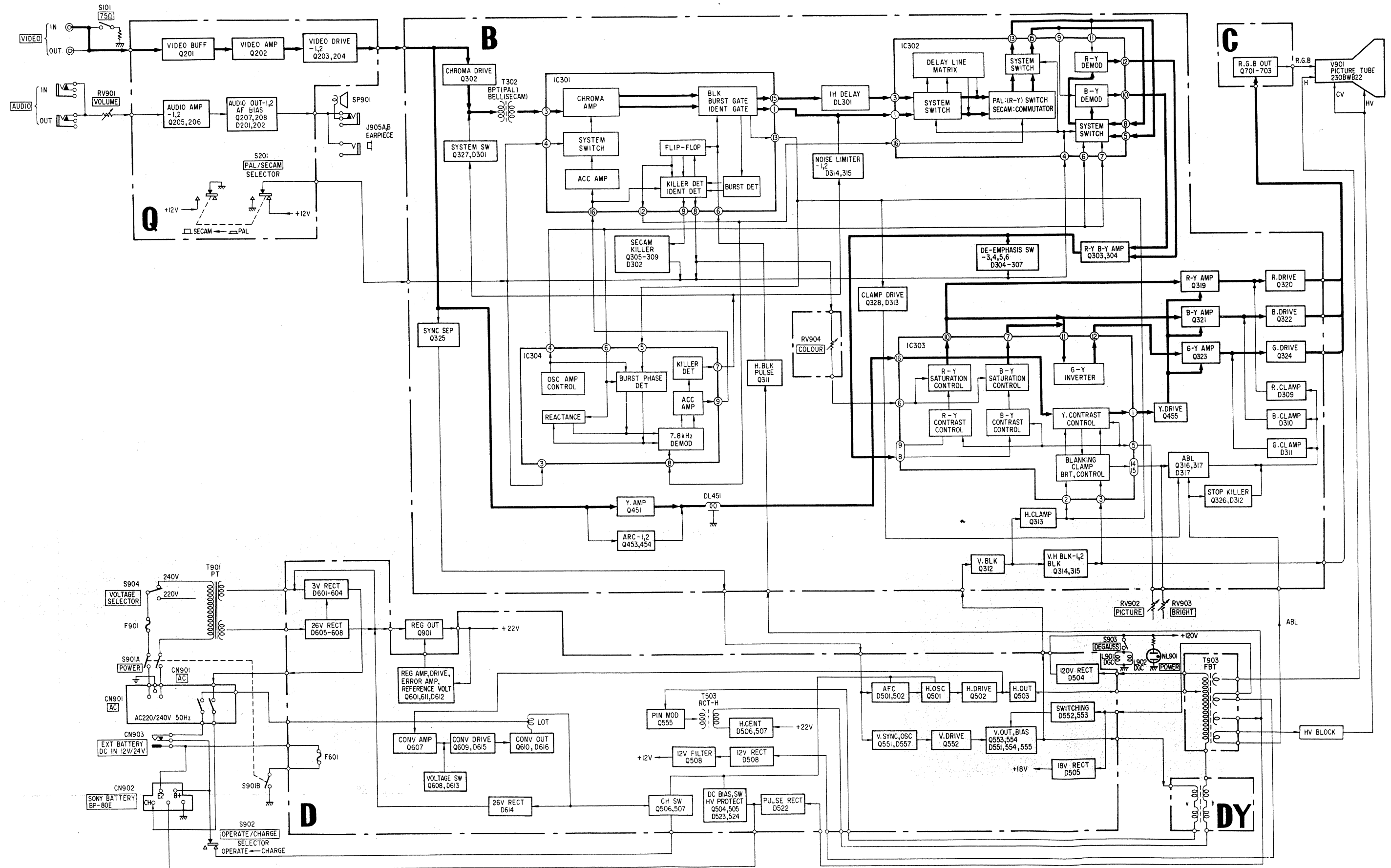
Accessories Supplied: Earpiece (ME-20B)
Mains lead
Instruction manual

CIRCUIT BOARDS LOCATION



SECTION 1 OUTLINE

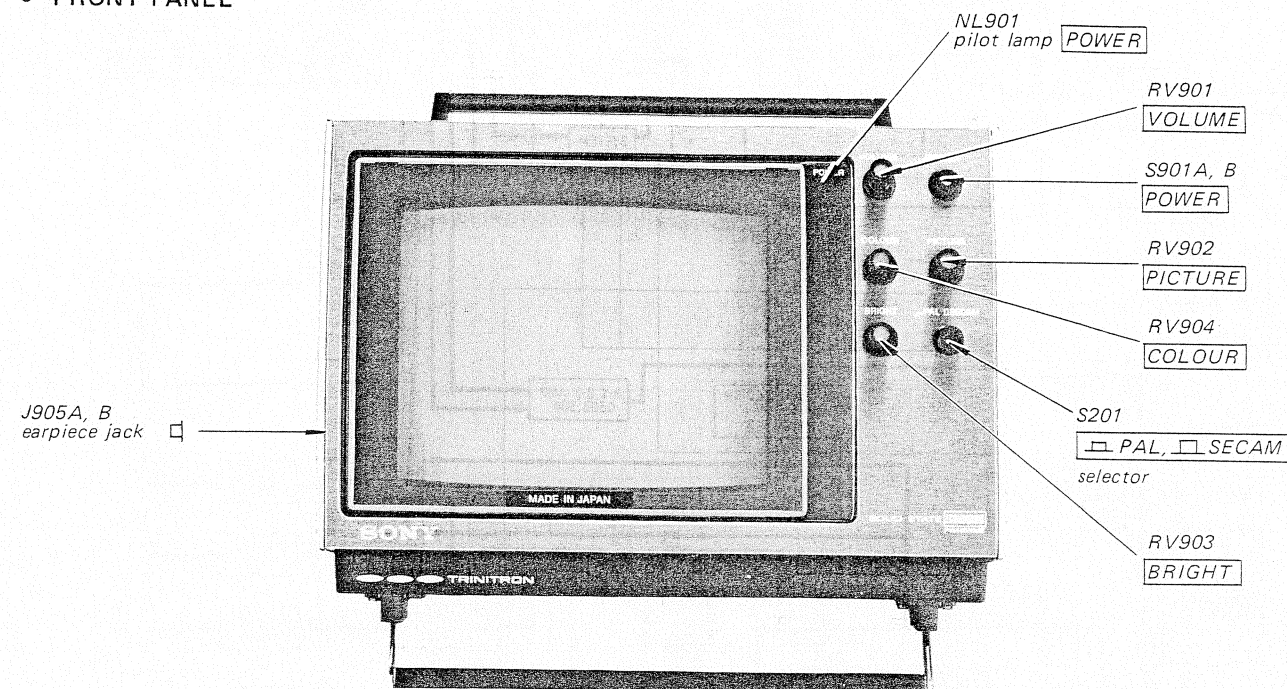
1-1. BLOCK DIAGRAM



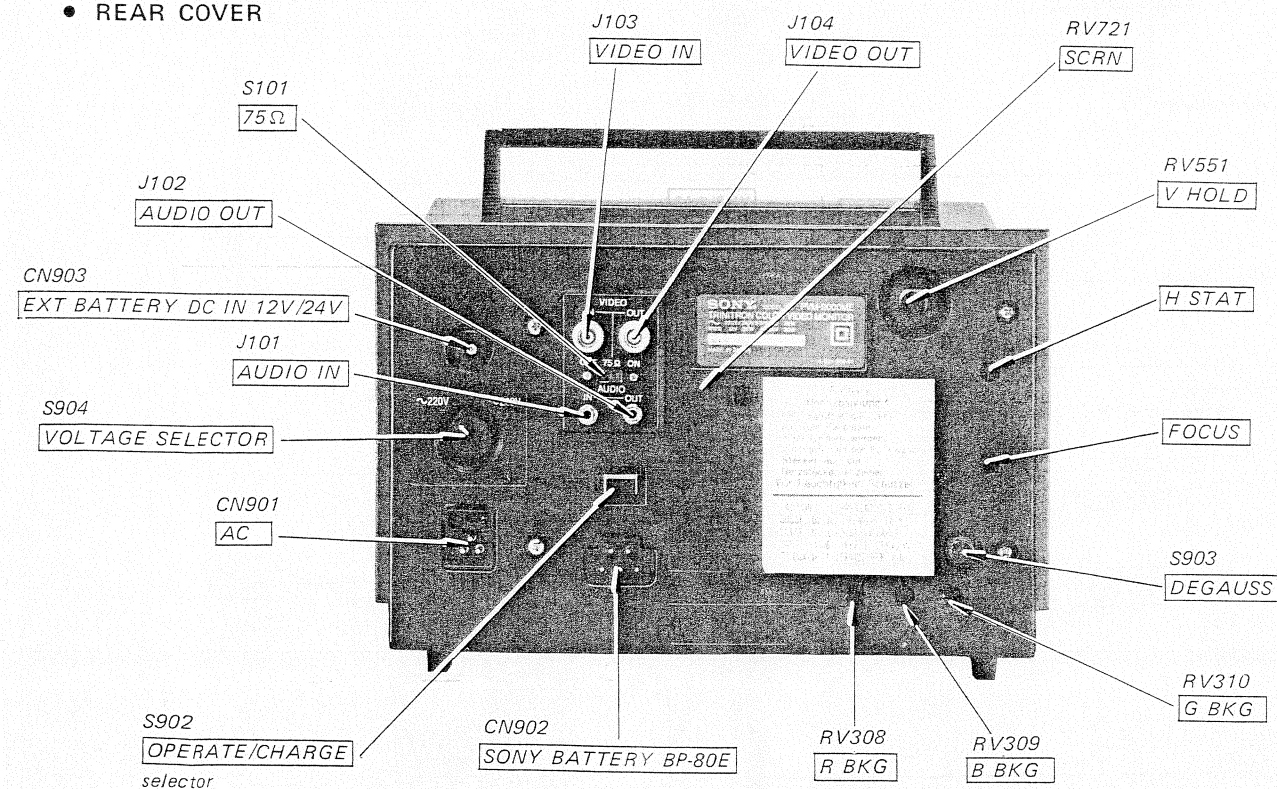
1-2. EXTERNAL VIEWS

Note:  indicates panel designation.

• FRONT PANEL



• REAR COVER

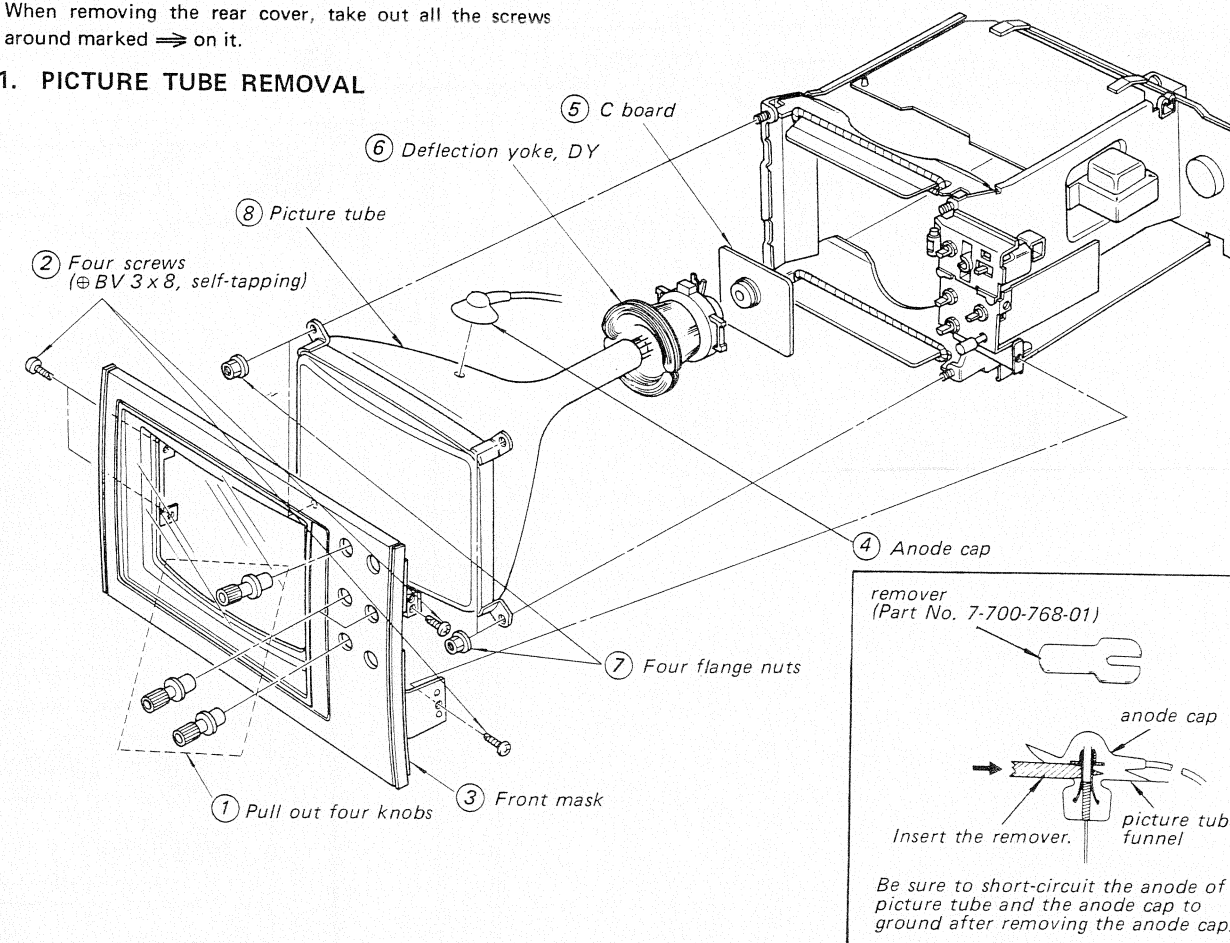


SECTION 2 DISASSEMBLY

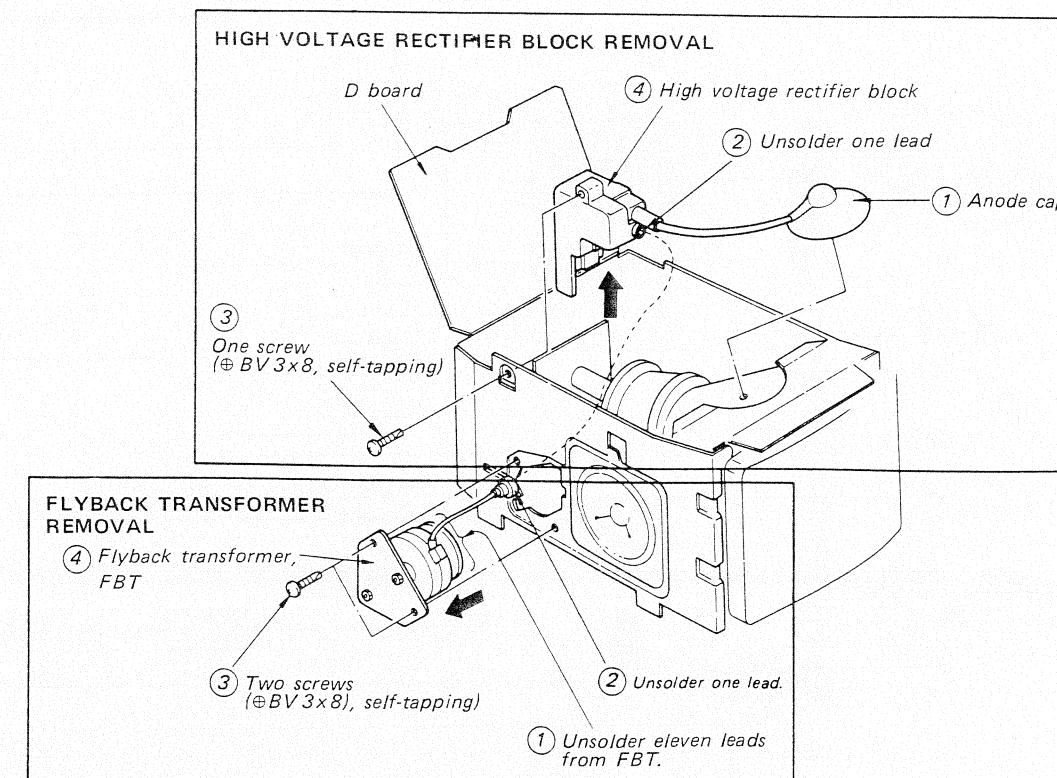
Note:

- Follow the disassembly procedure in the numerical order given.
- When removing the rear cover, take out all the screws around marked $\Rightarrow$ on it.

2-1. PICTURE TUBE REMOVAL



2-2. HIGH-VOLTAGE RECTIFIER AND FLYBACK TRANSFORMER REMOVAL



SECTION 3 SETUP ADJUSTMENTS

- (1) The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- (2) These adjustment should be performed with the rated power supply voltage unless otherwise noted.

Controls and switches should be set as follows:

PICTURE control } maximum
BRIGHT control } (fully clockwise)

Make the following adjustments in the order given.

1. Beam Landing
2. Convergence
3. White Balance

Note: Test Equipment Required.

1. Colour-bar/Pattern Generator
2. Degausser
3. Video tuner: SONY Model "VTU-200" or equivalent.

3-1. BEAM LANDING

Preparation:

- Feed in the cross-hatch pattern.
 - Before starting, degauss the entire screen.
1. Loosen deflection yoke screw.
 2. Remove deflection yoke spacers.
 3. Adjust purity magnet tabs as shown in Fig. 3-1.
 4. Slide deflection yoke as far forward as it will go.
 5. Disconnect leads ① and ③ on the C board.
 6. Adjust purity magnet tabs to centre vertical green band as shown in Fig. 3-2.
 7. Slide deflection yoke back for a uniform green screen.
 8. Check red and blue rasters for uniformity by performing the same way as steps 4, 5 and 6.
To get a uniform red screen,
.... connect lead ① and disconnect leads ② and ③ on the C board.
To get a uniform blue screen,
.... connect lead ③ and disconnect leads ② and ① on the C board.
After these checks, connect the leads ①, ② and ③.
 9. Tighten the deflection yoke screw.
 10. Install the deflection yoke spacers.
 11. Check if mislanding appears at corners a-d as shown in Fig. 3-3. If mislanding is observed, correct it as shown in Fig. 3-3.
 12. Confirm that beam landing is correct when the receiver is faced in all directions.

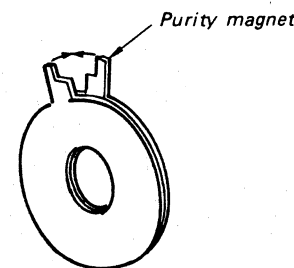


Fig. 3-1.

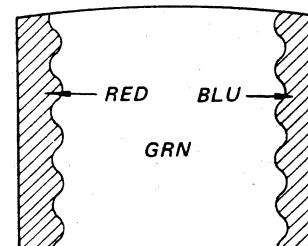


Fig. 3-2.

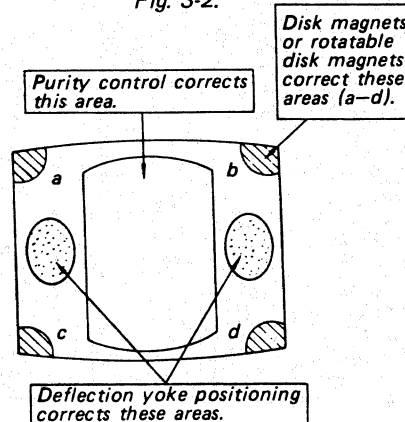


Fig. 3-3.

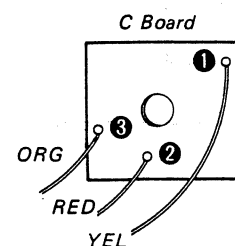
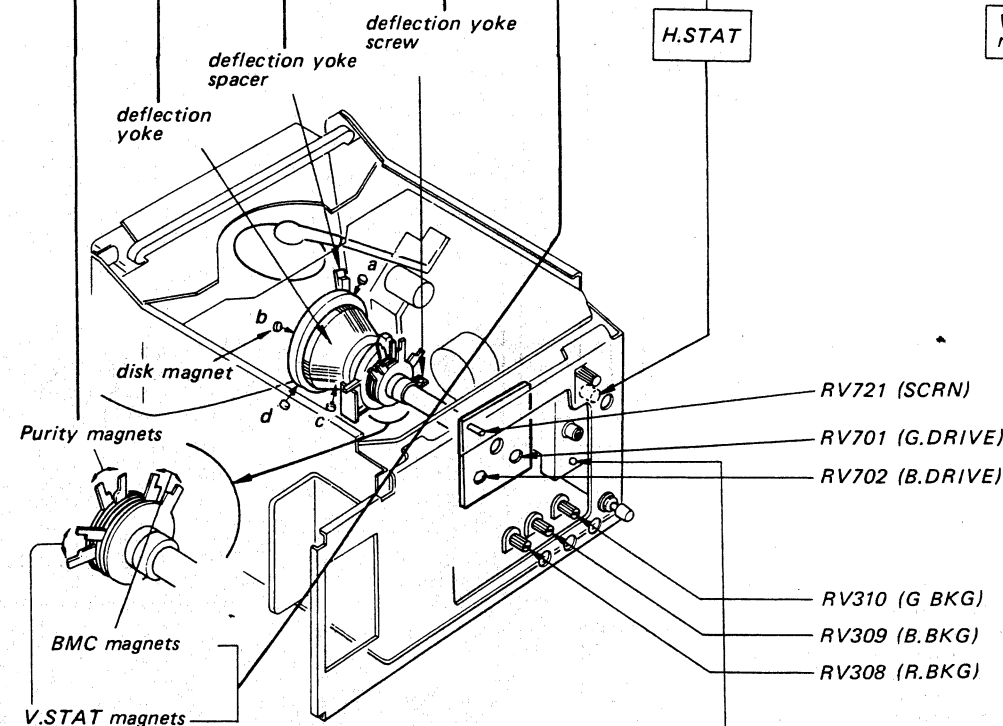


Fig. 3-4.



3-4. FOCUS

Adjust for best focus.

3-2. CONVERGENCE

Preparation:

- Before starting, perform FOCUS, H.SIZE, V.SIZE and V.LIN adjustments.
- Turn BRIGHT control fully anticlockwise, and set PICTURE control to mechanical centre.
- Feed in the dot pattern.

(1) Horizontal and Vertical Static Convergence

If blue dot does not coincide with red and green dots;

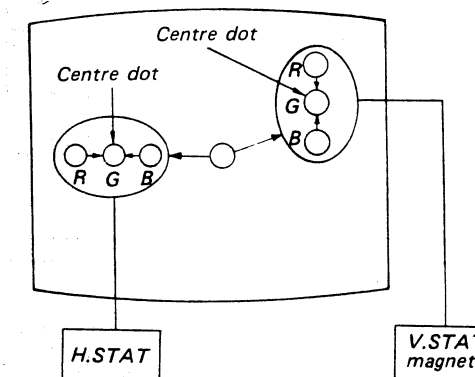
Move BMC magnet tabs (a) to correct insufficient H.static convergence.

Move V.STAT magnet tabs (b) to correct insufficient V.static convergence.

In either case, repeat Beam Landing Adjustment.

(2) Dynamic Convergence

Adjust H.STAT control so that green and blue dots coincide at centre screen.



3-3. WHITE BALANCE

1. Turn COLOUR, BRIGHT and PICTURE controls fully anticlockwise.
2. Turn RV701 (G.DRIVE) and RV702 (B.DRIVE) fully clockwise.
3. Set RV308 (R.BKG), RV309 (B.BKG) and RV310 (G.BKG) to mechanical centre.
4. Turn RV721 (SCRN) slowly to obtain a faintly visible cross-hatch. Note the colour that first becomes visible by turning SCRN control. Do not turn a BKG control for this colour.
5. Adjust the other two BKG controls for best white balance (neutral gray) of the faint cross-hatch.
6. Turn BRIGHT and PICTURE controls fully clockwise. Observe the screen and adjust the DRIVE controls for best white balance.
7. Repeat Steps 1 through 6 several times.

SECTION 4 CIRCUIT ADJUSTMENT

Note:

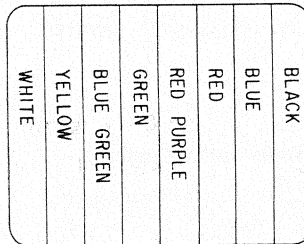
(1) TEST EQUIPMENT REQUIRED

1. Oscilloscope
2. Voltmeter (VOM)
3. Colour-bar/pattern generator
4. Variable auto-transformer
5. Video tuner SONY Model "VTU-200" or equivalent

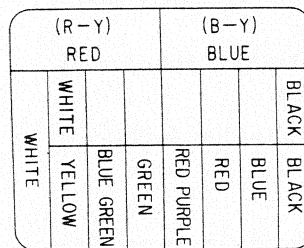
(2) INPUT SIGNAL

These adjustments were performed with the following colour-bar signal inputs.

PAL



SECAM



(3) CONTROL SETTINGS

Controls and switch should be set as follows when making checks and adjustments unless otherwise noted.

PICTURE control } Set for best picture.
BRIGHT control }
COLOUR control }

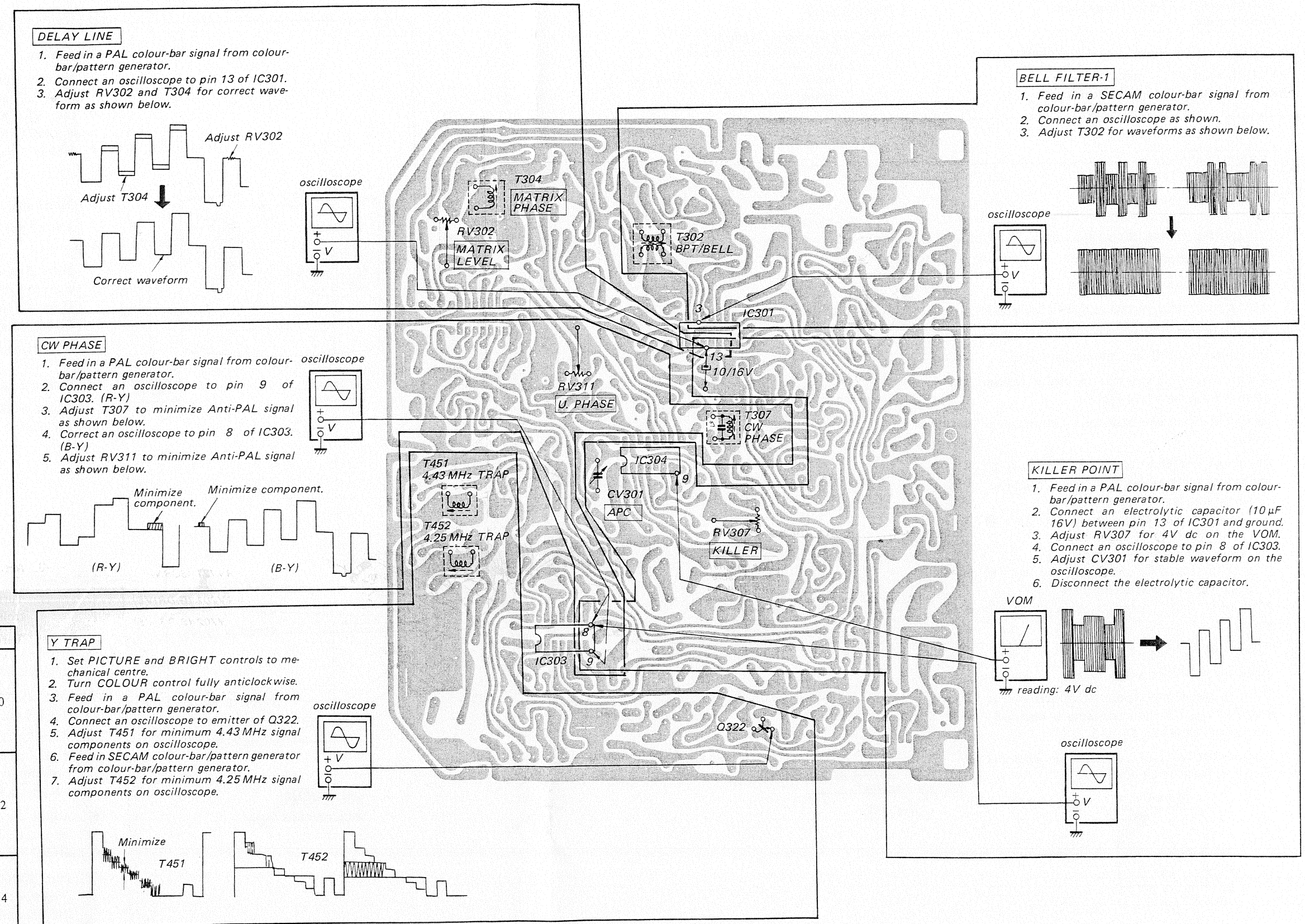
(4) AC INPUT

These adjustment should be performed with the rated power supply voltage unless otherwise noted.

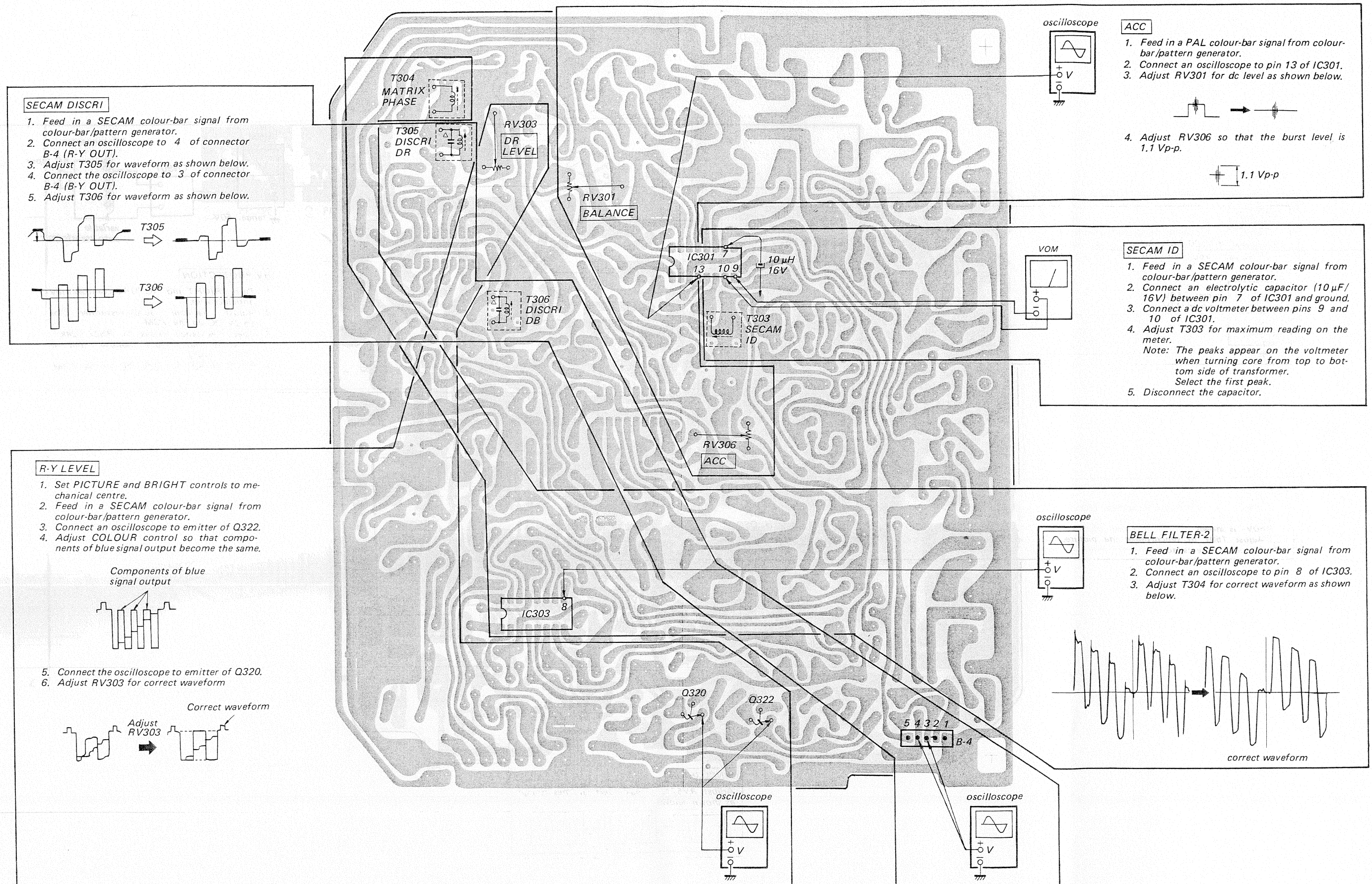
(5) CIRCUIT ADJUSTMENTS

Adjustment	Circuit Board	Page
BELL FILTER-1	B	9, 10
Y. TRAP		
CW PHASE		
KILLER POINT		
DELAY LINE		
SECAM DISCRI	B	11, 12
R-Y LEVEL		
ACC		
SECAM ID		
BELL FILTER-2	D	13, 14
22V ADJ		
H. FREQ		
HV PROTECTION		
PINCUSHION		
FOCUS		15

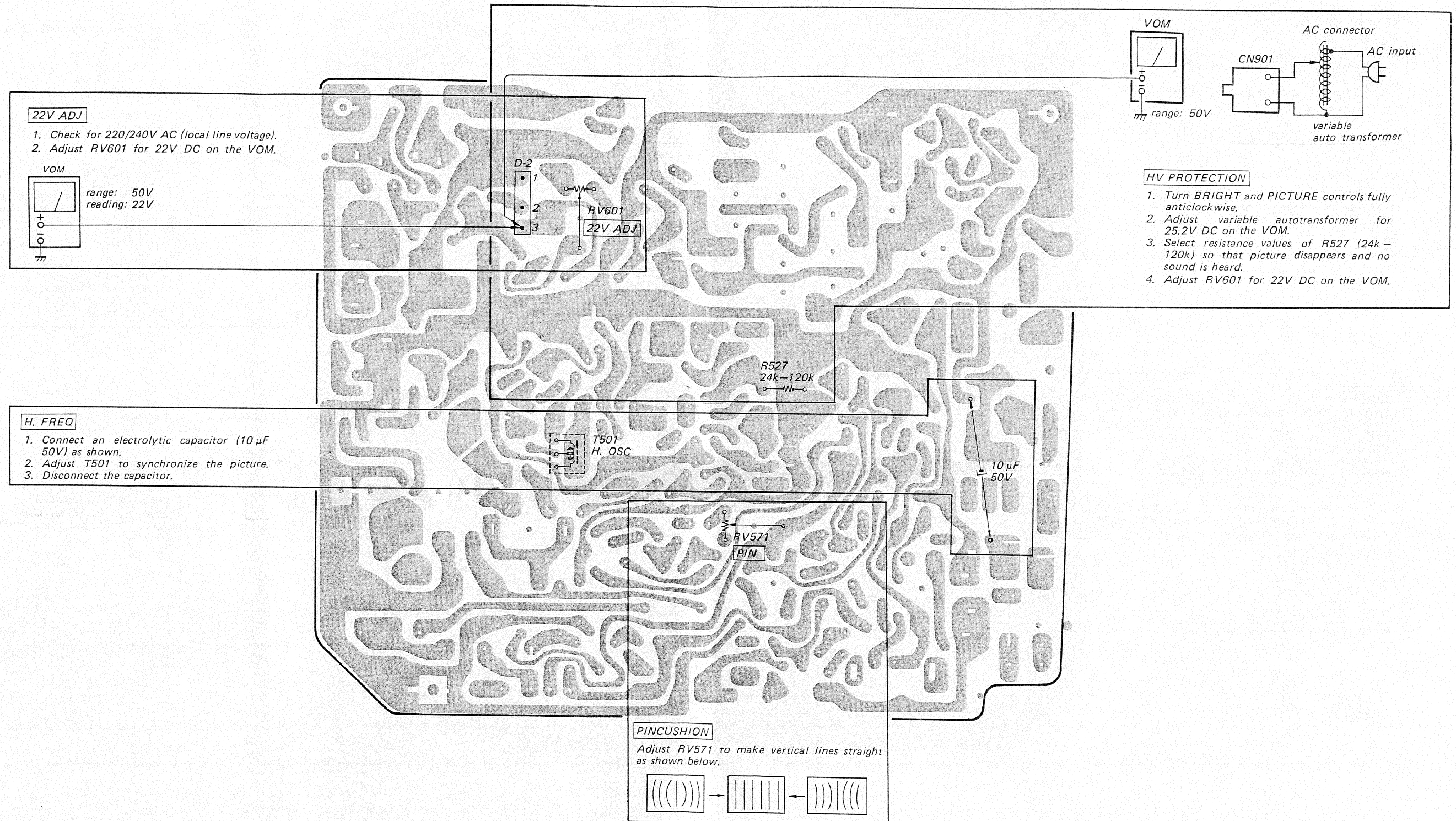
4-1. B BOARD ADJUSTMENTS - 1



4-2. B BOARD ADJUSTMENTS — 2



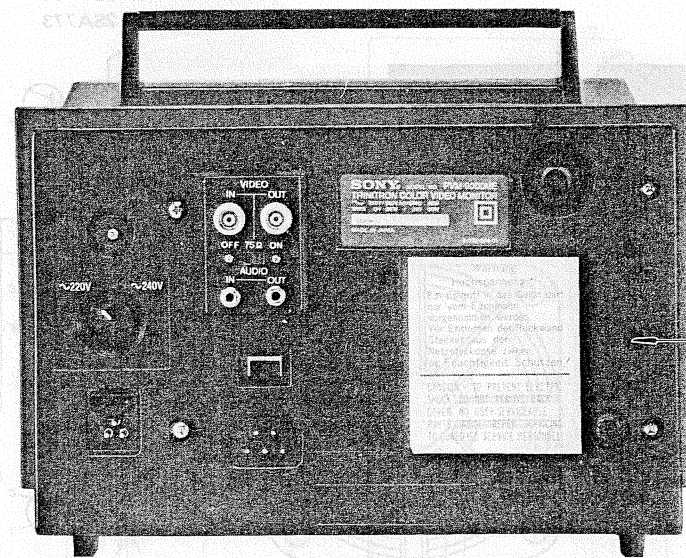
4-3. D BOARD ADJUSTMENTS



SECTION 5

DIAGRAMS

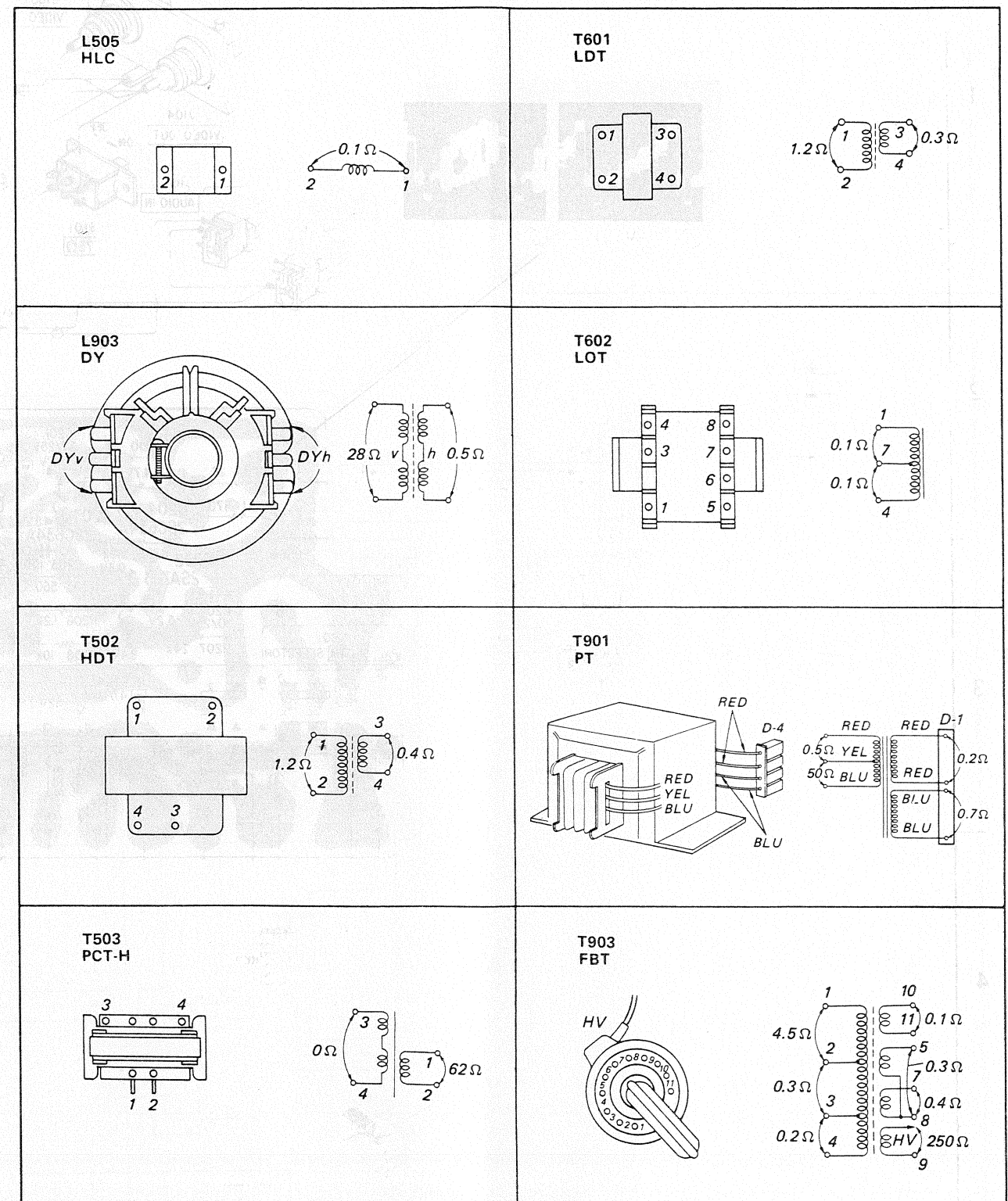
4-4. FOCUS ADJUSTMENT



FOCUS

Adjust for best focus.

5-1. DC RESISTANCE AND WINDING DIAGRAMS OF COILS AND TRANSFORMERS



Note: DC resistance measurements shown with coils disconnected from circuit.

— Q Board —

SCC-184A-A

PVM-9000ME

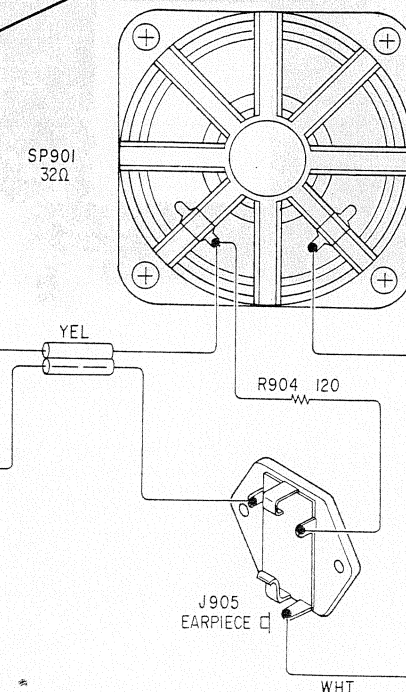
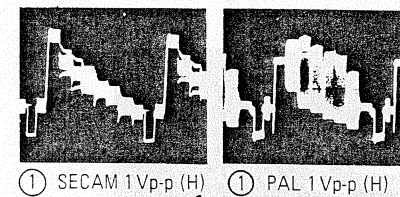
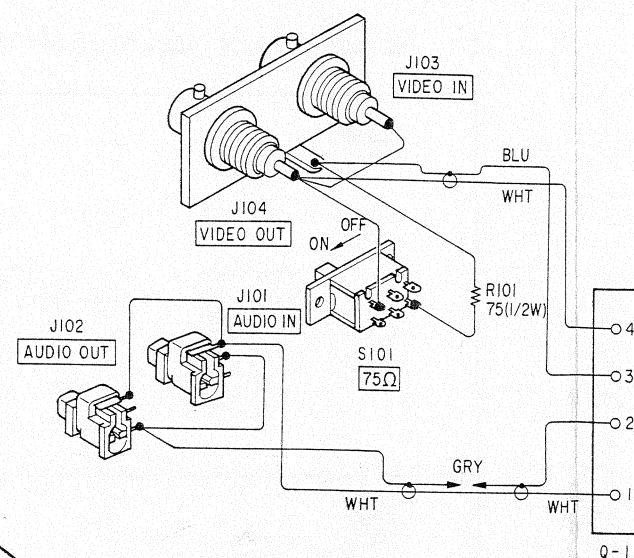
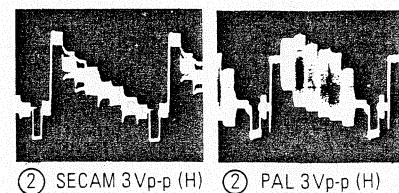
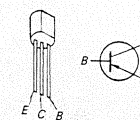
PVM-9000ME

SCC-184A-A

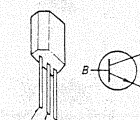
[VIDEO AMP]
[AUDIO AMP]

Q

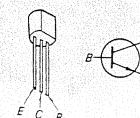
Q

2SA733
2SA773

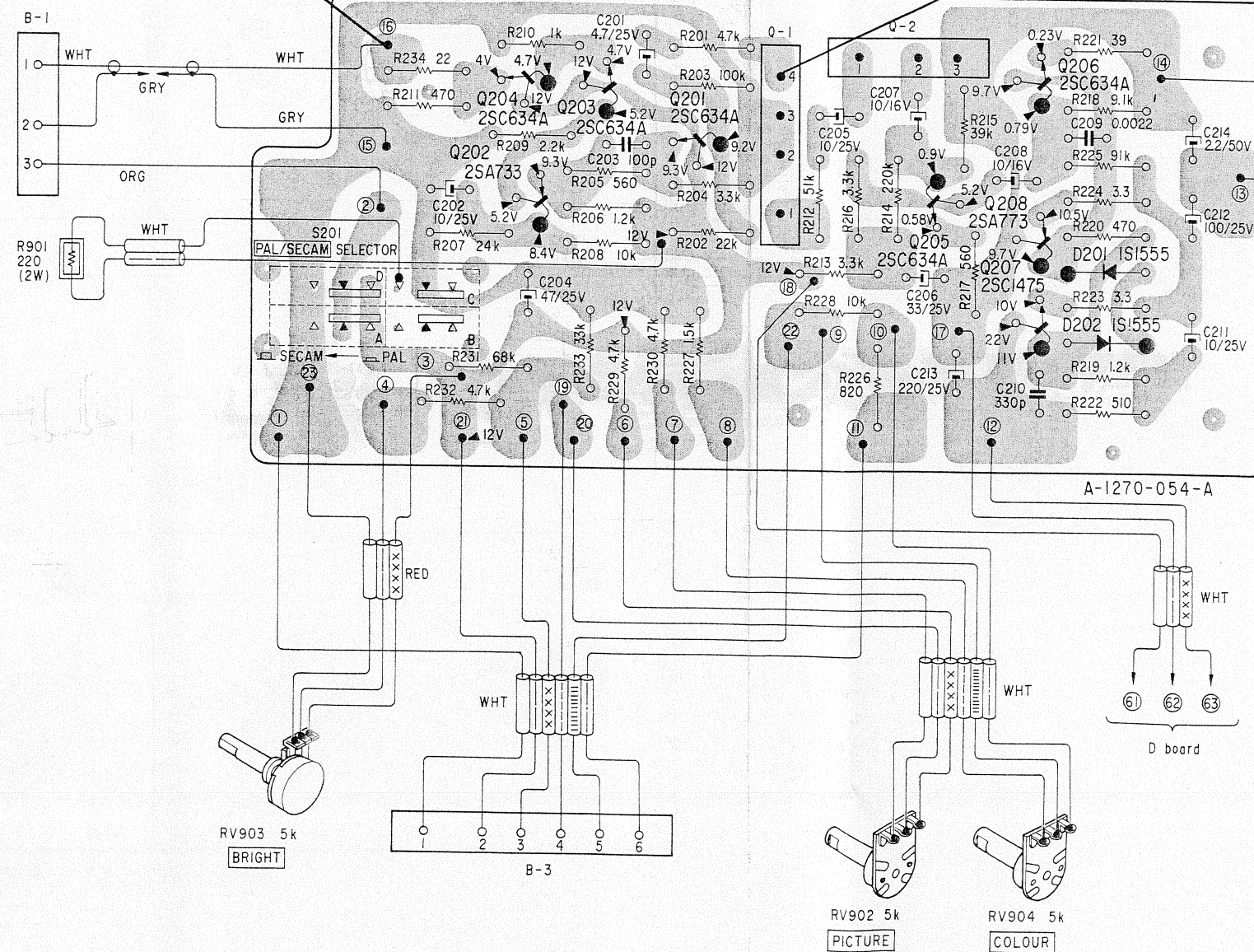
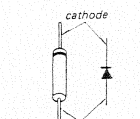
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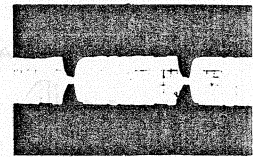
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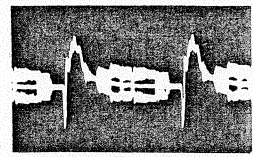
1S1555



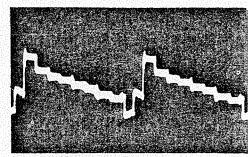
Note: • — : parts extracted from the component side.
• — : parts extracted from the conductor side.



④ SECAM 0.14Vp-p (H)



③ PAL 0.14Vp-p (H)



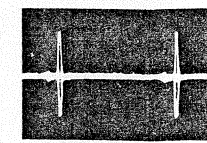
③ SECAM 0.1Vp-p (H)

SCC-184A-A

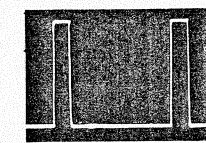
PVM-9000ME

PVM-9000ME

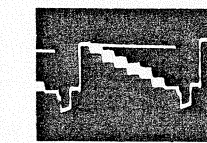
SCC-184A-A



⑩ 1.1Vp-p (H)



⑦ PAL 7.8Vp-p (H),
SECAM 5.9Vp-p (H)



⑩ PAL 1.9Vp-p (H)



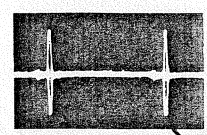
⑩ SECAM 2.5Vp-p (H)

[CHROMA, Y AMP,
APC, DEMOD, BLK, ABL]

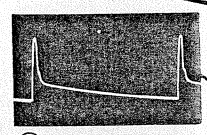
B

B

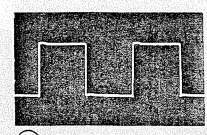
— B Board —



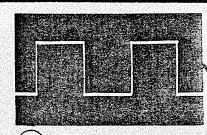
⑧ 1.1Vp-p (H)



⑥ 3.5Vp-p (V)



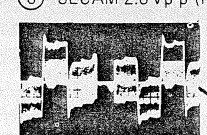
⑤ PAL 2.9Vp-p (H)



⑤ SECAM 2.8Vp-p (H)



⑨ PAL 3.4Vp-p (H)



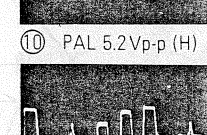
⑨ SECAM 2.5Vp-p (H)



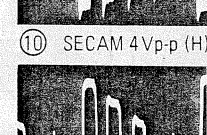
⑩ PAL 5.2Vp-p (H)



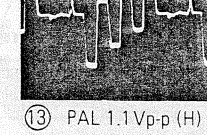
⑩ SECAM 4Vp-p (H)



⑬ PAL 1.1Vp-p (H)



⑬ SECAM 3.6Vp-p (H)



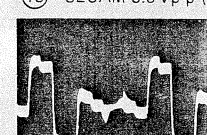
⑫ PAL 0.8Vp-p (H)



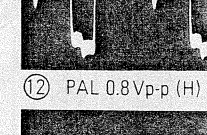
⑫ SECAM 2.8Vp-p (H)



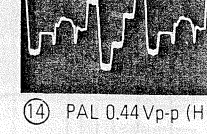
⑭ PAL 0.44Vp-p (H)



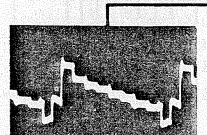
⑭ SECAM 1.5Vp-p (H)



⑪ SECAM 0.1Vp-p (H)



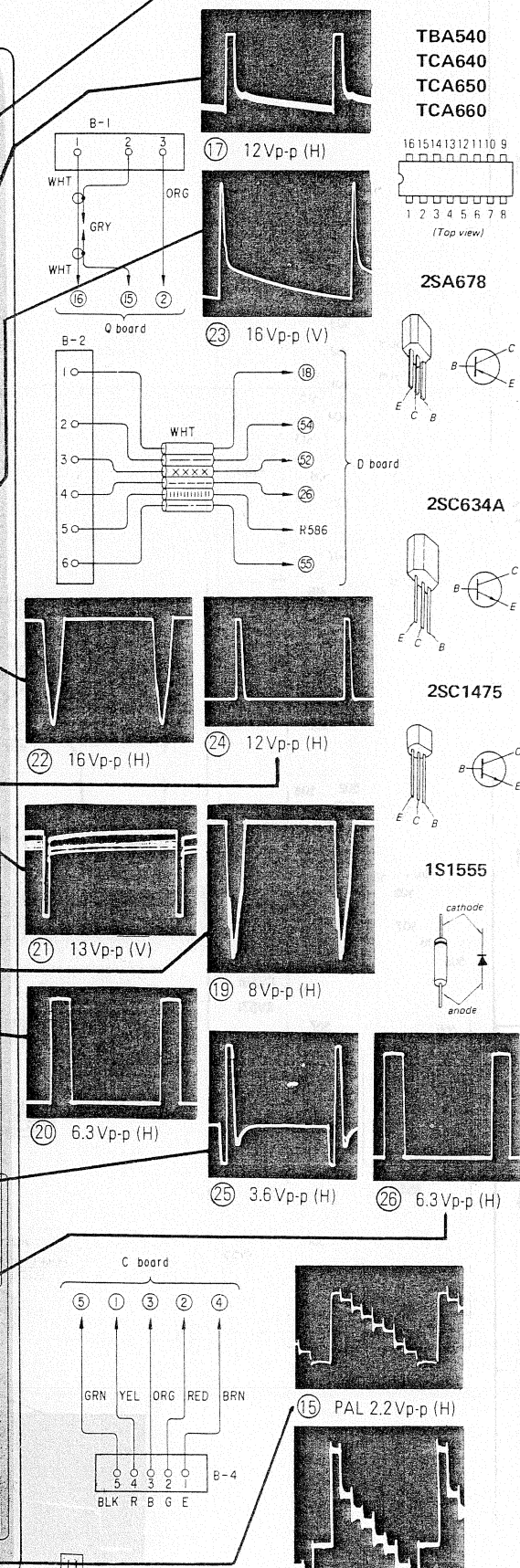
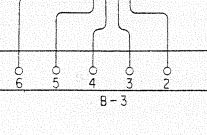
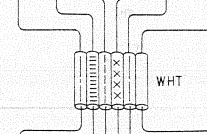
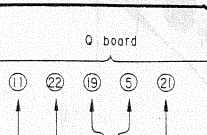
⑪ PAL 0.14Vp-p (H)



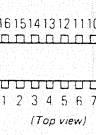
⑪ SECAM 0.1Vp-p (H)



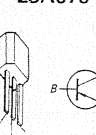
⑪ PAL 0.14Vp-p (H)



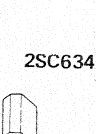
TBA540
TCA640
TCA650
TCA660



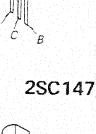
2SA678



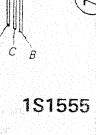
2SC634A



2SC1475



1S1555



cathode
anode

A-1135-072-A

Note: • — : parts extracted from the component side.
• — : parts extracted from the conductor side.

- D Board -

[22V REG TRANSISTOR]

G

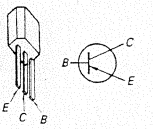
[REGULATOR, CONVERGENCE,
V.H. DEF, PIN, POWER SUPPLY]

D

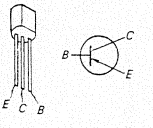
D

G

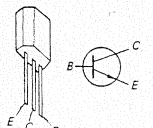
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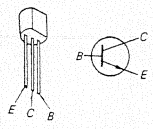
2SA773



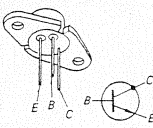
2SC634A



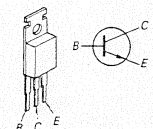
2SC1475



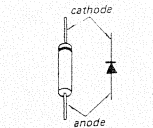
2SC756
2SD625



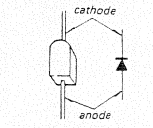
2SD476A



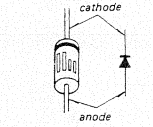
1S1555
RD12E



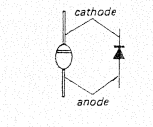
HF1
HF1C
HF1Z



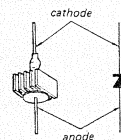
EQA01-06S
EQA01-07S
EQA01-13R
EQA01-16R
SIB01-02



V06C
V09C



S15H



1

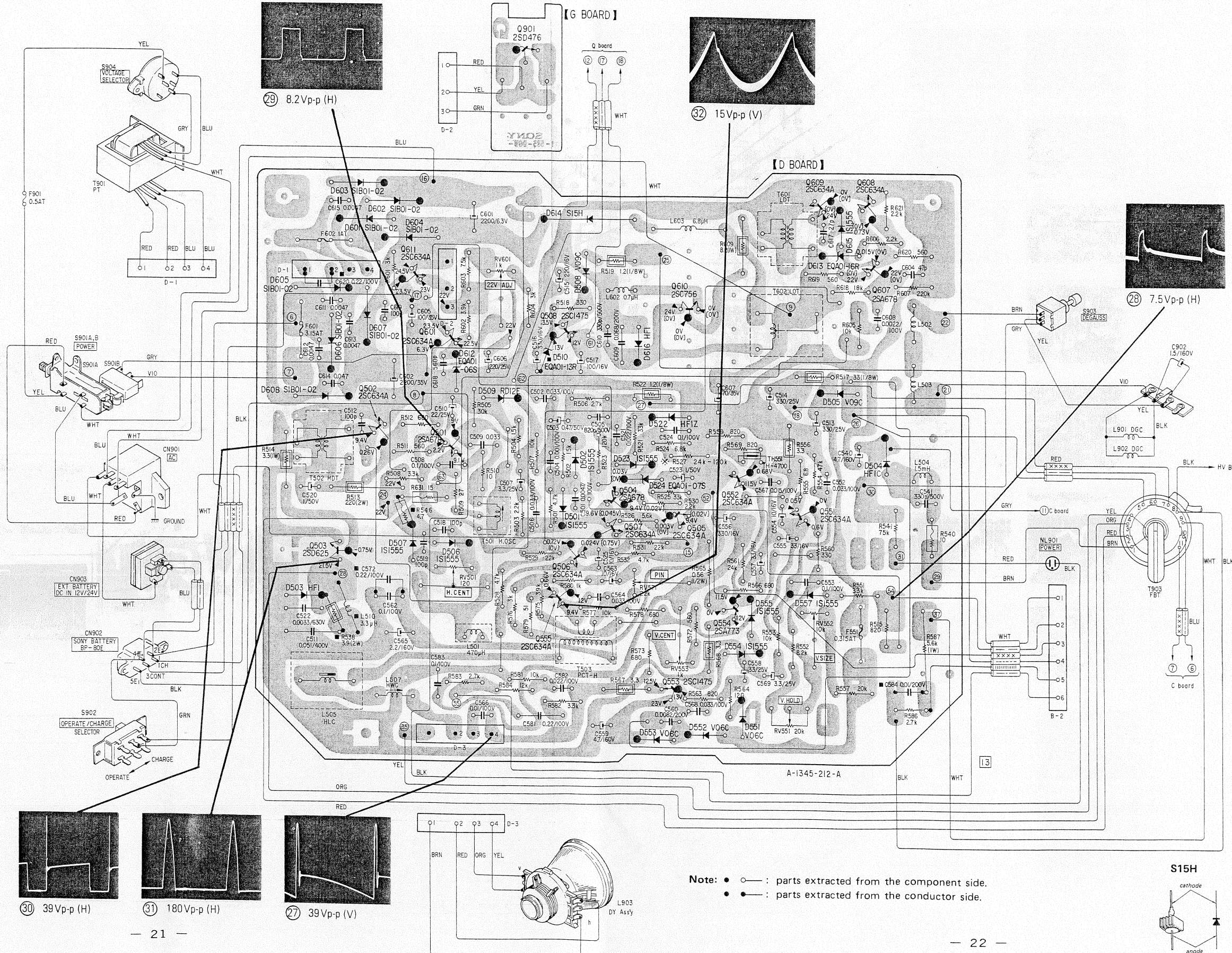
2

3

4

5

Q	D	ADJ
901	603	
609	602	
608	614	
601	615	
604	613	
607	508	RV601
611	605	
610	607	
508	616	
601	510	
612	510	
505	522	
509	522	
501	502	
502	504	
552	524	
504	551	
506	501	
507	507	
506	506	RV501
503	506	
555	557	RV571
554	503	
555	555	RV552
554	554	
553	553	RV553
551	551	
552	552	RV551
553	553	
Q	D	ADJ



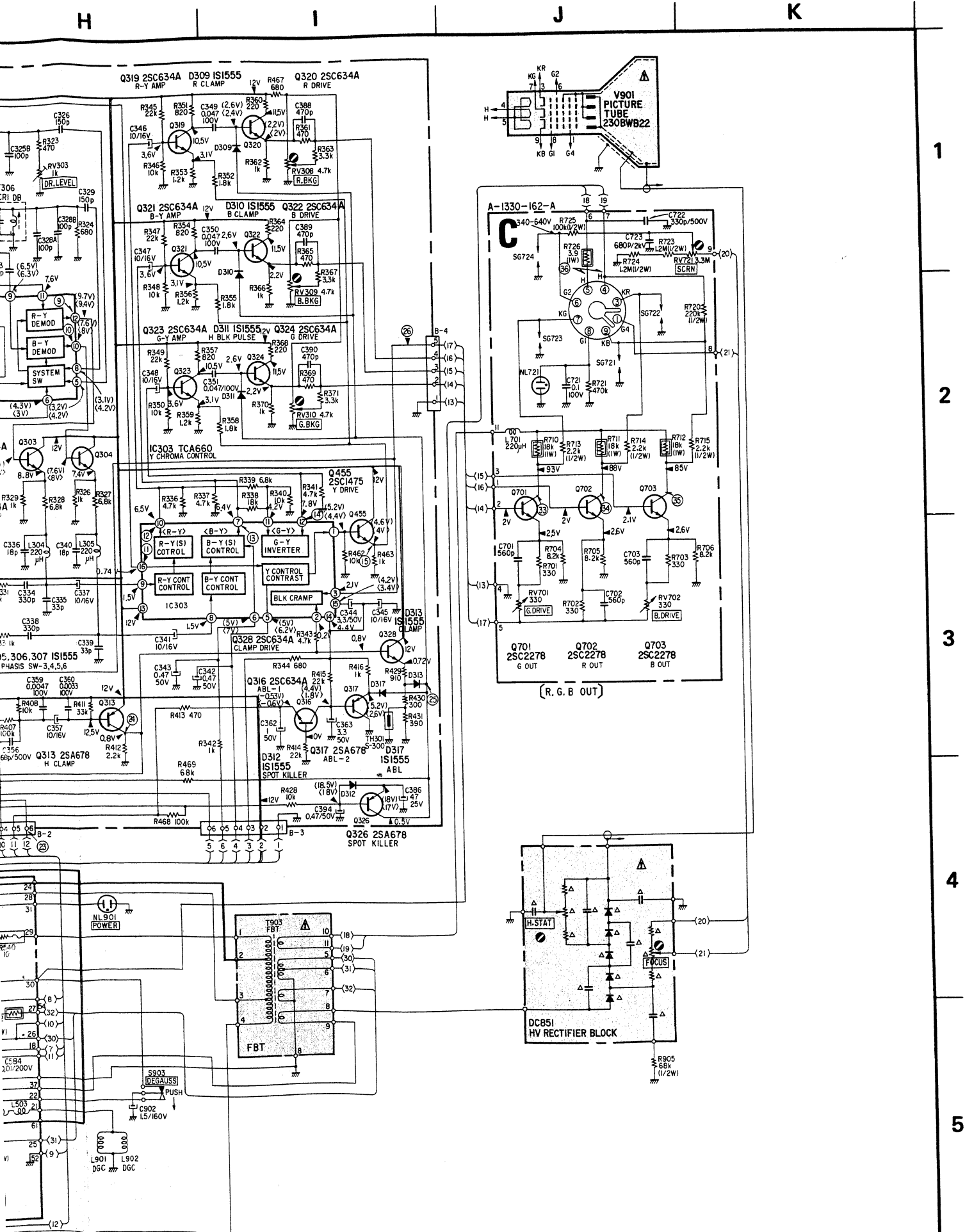
Note: • — : parts extracted from the component side.
• — : parts extracted from the conductor side.

5-3. SCHEMATIC DIAGRAM

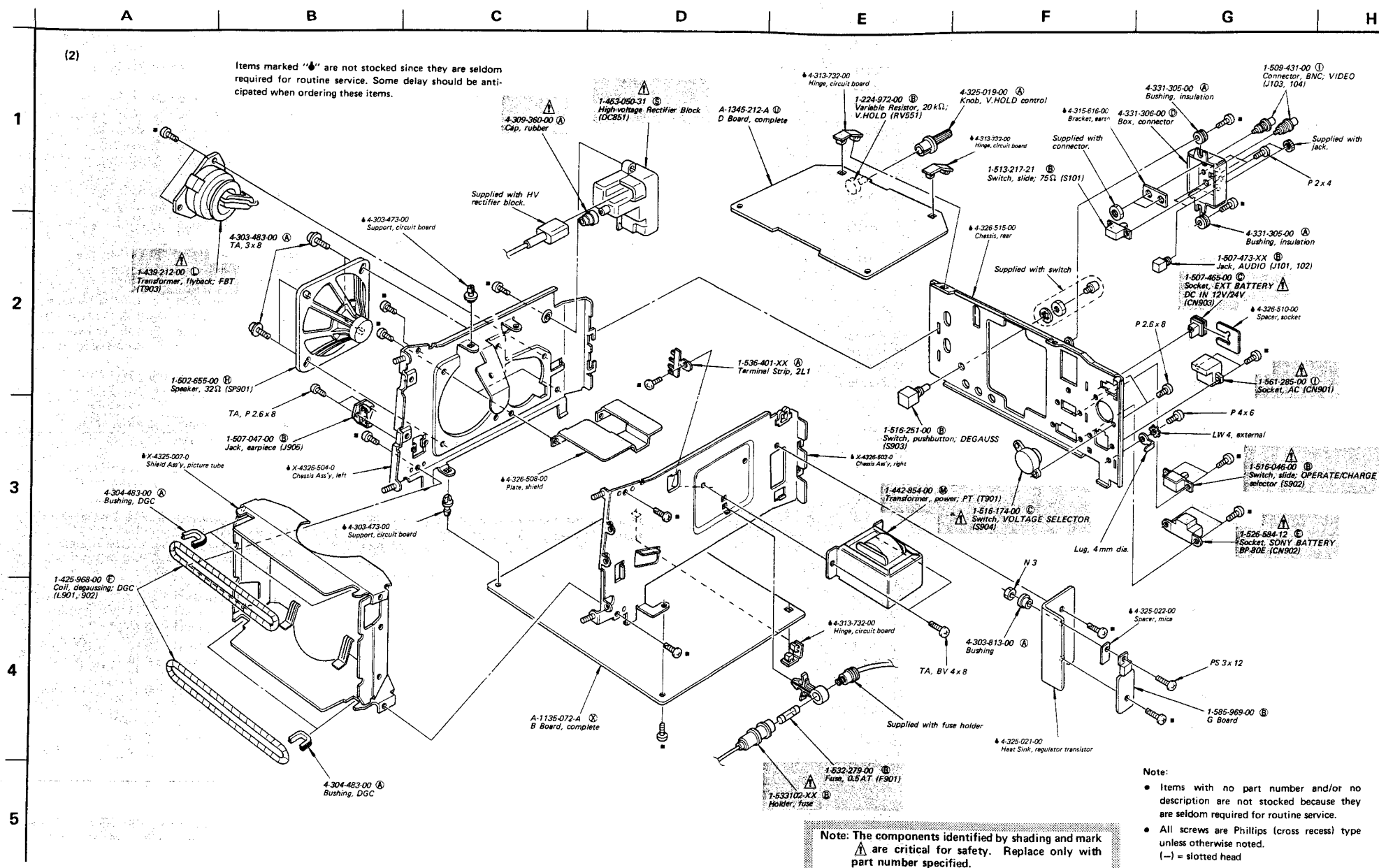
Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

Note:

- All capacitors are in μF unless otherwise noted. p: μF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, $\frac{1}{4}\text{W}$ unless otherwise noted. k Ω : 1000 Ω ; M Ω : 1000k Ω
-  : nonflammable resistor.
-  : fusible resistor.
-  : panel designation.
- Δ : internal component.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
-  : chassis ground.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 20,000-ohm-per-volt VOM.
- Readings are taken with a colour-bar signal input.
- Readings are taken with rated power supply voltage unless otherwise noted.
- Voltages in the D board
[] : ac power input
no mark: 24V dc input.
- Voltages in the B board
() : PAL colour-bar signal input
< > : SECAM colour-bar signal input
no mark: common
- Voltage variations may be noted due to normal production tolerances.
-  : adjustable without removing cabinet.
- Circled numbers (① to ③⑦) refer to waveforms shown on the mounting diagrams.
-  : adjustment for repair.



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SECTION 7 ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
CIRCUIT BOARDS									TRANSFORMERS		
1-585-969-00	(B) G Board		Q553	(B) 2SC1475		D601-608	(B) SIB01-02		T301	1-425-784-00	(B) Take-off, TOT
A-1135-072-A	(X) B Board, complete		Q554	(B) 2SA773		D612	(B) EQA01-06S		T302	1-404-075-00	(B) Bandpass, BPT/BELL
A-1270-054-A	(L) Q Board, complete		Q555	(B) 2SC634A		D613	(B) EQA01-16R		T303	1-404-075-00	(B) SECAM ID
A-1330-162-A	(L) C Board, complete		Q601	(B) 2SC634A		D614	(B) S15H		T304	1-425-928-00	(B) Matrix Phase
A-1345-212-A	(U) D Board, complete		Q607	(B) 2SA678		D615	(B) 1S1555		T305	1-404-076-00	(B) Discr1, DR
			Q608,609	(B) 2SC634A					T306	1-404-076-00	(B) Discr1, DB
			Q610	(D) 2SC756					T307	1-403-843-00	(B) SW Phase
			Q611	(B) 2SC634A					T308	1-425-970-00	(B) Continuous-wave, CWT
SEMICONDUCTORS			Q701-703	(C) 2SC2278					T451	1-409-193-00	(B) 4.43 MHz Trap
			Q901	(D) 2SD476A					T452	1-409-193-00	(B) 4.25 MHz Trap
Transistors									T501	1-405-760-00	(B) Horizontal Oscillation, HOC
Q201	(B) 2SC634A		ICs						T502	1-437-021-00	(B) Horizontal Drive, HDT
Q202	(B) 2SA733		IC301	(N) TCA640					T503	1-421-268-00	(B) Horizontal Pincushion Correction, PCT-H
Q203-206	(B) 2SC634A		IC302	(N) TCA650					T601	1-437-021-00	(B) LDT
Q207	(B) 2SC1475		IC303	(N) TCA660					T602	1-439-207-00	(F) Line Output, LOT
Q208	(B) 2SA773		IC304	(L) TAB540					T901	(A) 1-442-854-00	(M) Power, PT
Q302-308	(B) 2SC634A								T903	(A) 1-439-212-00	(L) Flyback, FBT
Q309	(B) 2SA678								CAPACITORS		
Q311,312	(B) 2SC634A								All capacitors are in μ F and ceramic unless otherwise noted.		
Q313	(B) 2SA678								50WV or less are not indicated except for electrolytics. p: μ F, elect: electrolytic		
Q314	(B) 2SC634A										
Q315	(B) 2SA678										
Q316	(B) 2SC634A										
Q317	(B) 2SA678										
Q319-324	(B) 2SC634A										
Q325-327	(B) 2SA678										
Q328	(B) 2SC634A										
Q451,453, Q454	(B) 2SC634A										
Q455	(B) 2SC1475										
Q501	(B) 2SA678										
Q502	(B) 2SC634A										
Q503	(E) 2SD625										
Q504	(B) 2SA678										
Q505-507	(B) 2SC634A										
Q508	(B) 2SC1475										
Q551,552	(B) 2SC634A										

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
C213	1-121-936-11	(A) 220 25 V elect
C214	1-121-450-11	(A) 2.2 50 V elect
C301	1-102-676-11	(A) 68p
C302,303	1-101-004-11	(A) 0.01
C304	1-102-973-11	(A) 100p
C305 A-C	1-102-888-11	(A) 150p
C306,307	1-101-004-11	(A) 0.01
C308,309	1-121-651-11	(A) 10 16 V elect
C310	1-101-004-11	(A) 0.01
C311	1-121-651-11	(A) 10 16 V elect
C312,313	1-121-395-11	(A) 4.7 25 V elect
C314	1-101-004-11	(A) 0.01
C315	1-121-651-11	(A) 10 16 V elect
C316 A-C	1-102-888-11	(A) 150p
C317-319	1-101-004-11	(A) 0.01
C321	1-101-004-11	(A) 0.01
C322,323	1-102-820-11	(A) 330p
C324	1-102-516-11	(A) 27p
C325 A,B	1-102-529-11	(A) 100p
C326	1-101-361-11	(A) 150p
C327	1-102-516-11	(A) 27p
C328 A,B	1-102-529-11	(A) 100p
C329	1-101-361-11	(A) 150p
C330	1-101-004-11	(A) 0.01
C331	1-121-726-11	(A) 0.47 50 V elect
C332	1-101-004-11	(A) 0.01
C333	1-121-726-11	(A) 0.47 50 V elect
C334	1-102-820-11	(A) 330p
C335	1-102-963-11	(A) 33p
C336	1-102-953-11	(A) 18p
C337	1-121-651-11	(A) 10 16 V elect
C338	1-102-820-11	(A) 330p
C339	1-102-963-11	(A) 33p
C340	1-102-953-11	(A) 18p
C341	1-121-651-11	(A) 10 16 V elect
C342,343	1-121-726-11	(A) 0.47 50 V elect
C344	1-121-393-11	(A) 3.3 50 V elect
C345-348	1-121-651-11	(A) 10 16 V elect
C349-351	1-108-385-12	(A) 0.047 100V mylar

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
C352,354	1-121-726-11	(A) 0.47 50 V elect
C355	1-101-804-11	(A) 10p 500V
C356	1-102-989-11	(A) 68p 500V
C357	1-121-651-11	(A) 10 16 V elect
C359	1-108-373-12	(A) 0.0047 100V mylar
C360	1-108-371-12	(A) 0.0033 100V mylar
C361,362	1-121-391-11	(A) 1 50 V elect
C363	1-121-393-11	(A) 3.3 50 V elect
C364	1-121-391-11	(A) 1 50 V elect
C365	1-101-001-11	(A) 0.001
C367	1-108-381-12	(B) 0.022 100V mylar
C368	1-101-884-11	(A) 56p
C369-371	1-101-004-11	(A) 0.01
C372	1-102-527-11	(A) 82p
C373	1-102-749-11	(A) 12p
C374	1-102-803-11	(A) 27p
C375	1-121-398-11	(A) 10 25 V elect
C376	1-161-023-11	(A) 0.068 (semiconductor)
C377	1-108-389-12	(B) 0.1 100V mylar
C378	1-121-651-11	(A) 10 16 V elect
C379	1-108-389-12	(B) 0.1 100V mylar
C380	1-123-021-11	(B) 0.47 50 V elect
C381	1-121-651-11	(A) 10 16 V elect
C382	1-121-479-11	(A) 22 16 V elect
C383	1-102-887-11	(A) 47p
C384	1-101-804-11	(A) 10P 500V
C385	1-101-455-11	(A) 0.001
C386	1-121-410-11	(B) 47 25 V elect
C387	1-121-651-11	(A) 10 16 V elect
C388-390	1-102-824-11	(A) 470p
C391	1-101-006-11	(A) 0.047
C392	1-121-479-11	(A) 22 16 V elect
C393	1-121-398-11	(A) 10 25 V elect
C394	1-121-726-11	(A) 0.47 50 V elect
C395,396	1-101-004-11	(A) 0.01
C451,452	1-102-662-11	(A) 7p
C453	1-102-947-11	(A) 10p
⇒ C456	1-121-404-11	(A) 33 25 V elect
C457	1-102-937-11	(A) 4p
C458	1-121-935-11	(B) 100 25 V elect

• ⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Ref. No.	Part No.	Description
C501	1-108-373-12	(A) 0.0047 100V mylar
C502	1-108-383-12	(A) 0.033 100V mylar
C503	1-121-726-11	(A) 0.47 50V elect
C504	1-108-365-12	(A) 0.001 100V mylar
C505	1-102-212-11	(A) 820p 500V
C506	1-108-383-12	(A) 0.033 100V mylar
C507	1-121-392-11	(A) 3.3 25V elect
C508	1-108-389-12	(B) 0.1 100V mylar
C509	1-130-117-11	(B) 0.033 100V polyethylene
C510	1-121-480-11	(A) 22 25V elect
C511	1-130-118-11	(B) 0.051 400V polyethylene
C512	1-102-106-11	(A) 100p
C513,514	1-123-065-11	(B) 330 25V elect
C515	1-121-972-11	(A) 220 16V elect
C516	1-123-069-11	(A) 330 16V elect
C517	1-121-415-11	(A) 100 16V elect
C518,519	1-102-106-11	(A) 100p
C520	1-121-391-11	(A) 1 50V elect
C521	1-108-381-12	(B) 0.022 100V mylar
C522	1-129-708-11	(A) 0.0033 630V polyethylene
C523	1-121-391-11	(A) 1 50V elect
C524	1-108-389-12	(B) 0.1 100V mylar
C525	1-121-651-11	(A) 10 16V elect
C540	1-121-246-11	(A) 4.7 160V elect
C541	1-102-030-11	(A) 330p 500V
C552	1-108-383-12	(A) 0.033 100V mylar
C553	1-108-389-12	(B) 0.1 100V mylar
C554	1-131-158-11	(B) 10 16V tantalum
⇒ C555	1-121-404-11	(A) 33 25V elect
C556	1-121-991-11	(B) 330 16V elect
⇒ C557	1-121-404-11	(A) 33 25V elect
C558	1-121-404-11	(A) 33 25V elect
C559	1-123-269-11	(B) 4.7 160V elect
C560	1-108-420-12	(B) 0.0082 200V mylar
C562	1-108-389-12	(B) 0.1 100V mylar
C563	1-121-651-11	(A) 10 16V elect
C564	1-108-383-12	(A) 0.033 100V mylar
C565	1-123-172-11	(B) 2.2 160V elect
C566	1-108-377-12	(A) 0.01 100V mylar
C567	1-108-379-12	(A) 0.015 100V mylar

Ref. No.	Part No.	Description
C568	1-108-371-12	(A) 0.0033 100V mylar
C569	1-121-392-11	(A) 3.3 25V elect
C572,581	1-108-393-12	(B) 0.22 100V mylar
C582	1-108-381-12	(B) 0.022 100V mylar
C583	1-108-389-12	(B) 0.1 100V mylar
C584	1-108-692-11	(A) 0.01 200V mylar
C601	1-123-078-11	(A) 2200 6.3V elect
C602	1-125-154-11	(E) 2200 35V elect
C604	1-101-880-11	(A) 47p
C605	1-123-059-11	(B) 100 35V elect
C606	1-121-936-11	(A) 220 25V elect
C607	1-121-983-11	(A) 470 35V elect
C608	1-108-369-12	(A) 0.0022 100V mylar
C609	1-108-431-12	(B) 0.068 200V mylar
C610	1-102-030-11	(A) 330p 500V
C611-615	1-102-125-11	(A) 0.0047
C617	1-102-961-11	(A) 27p
C618	1-102-115-11	(A) 560p
C619	1-102-106-11	(A) 100p
C620	1-108-393-12	(B) 0.22 100V mylar
C701-703	1-102-115-11	(A) 560p
C721	1-108-389-12	(B) 0.1 100V mylar
C722	1-102-030-11	(A) 330p 500V
C723	1-102-249-11	(A) 680p 2kV
C901	1-108-421-12	(A) 0.01 200V mylar
C902	1-123-167-11	(B) 1.5 160V elect
CV301	1-141-147-XX	(A) APC
RESISTORS		
All resistors are in ohms. Common ¼W carbon resistors are omitted. Refer to the list on the last page for their part numbers. All variable and adjustable resistors have characteristic curve B, unless otherwise noted. kΩ: 1000Ω, MΩ: 1000kΩ		
R101	1-244-846-11	(A) 75 ¼W carbon
R513	1-206-648-11	(A) 220 2W metal oxide (nonflammable)

Ref. No.	Part No.	Description
R514	1-212-366-11	(B) 3.3 1W metal oxide (nonflammable)
R517	1-246-985-11	(A) 33 ¼W carbon (nonflammable)
R519,522	1-246-979-11	(A) 1.2 ¼W carbon (nonflammable)
R538	1-206-453-11	(A) 3.9 2W metal oxide (nonflammable)
R540	1-212-857-11	(A) 10 ¼W fusible (nonflammable)
R546	1-212-849-11	(B) 4.7 ¼W fusible (nonflammable)
R556	1-246-872-11	(A) 3.3 ¼W carbon (nonflammable)
R565	1-207-617-11	(B) 0.56 ¼W wirewound
R567,568	1-246-872-11	(A) 3.3 ¼W carbon (nonflammable)
R587	1-202-785-31	(A) 5.6k 1W composition
R609	1-212-371-11	(A) 8.2 1W metal oxide (nonflammable)
R631	1-212-861-51	(A) 15 ¼W fusible (nonflammable)
R710-712	1-213-158-11	(B) 18k 1W metal oxide (nonflammable)
R713-715	1-202-581-11	(A) 2.2k ¼W composition
R720	1-202-629-11	(A) 220k ¼W composition
R723,724	1-202-720-11	(A) 1.2M ¼W composition
R725	1-202-621-11	(B) 100k ¼W composition
R726	1-212-367-11	(B) 3.9 1W metal oxide (nonflammable)
R901	1-206-648-11	(A) 220 2W metal oxide (nonflammable)
R905	1-202-816-11	(A) 68k ¼W composition
RV301	1-224-641-XX	(B) 470, adjustable; BALANCE
RV302	1-224-643-XX	(B) 2.2k, adjustable; MATRIX LEVEL
RV303	1-224-642-XX	(B) 1k, adjustable; DR. LEVEL
RV306	1-224-644-XX	(B) 4.7k, adjustable; ACC
RV307	1-224-645-XX	(B) 10k, adjustable; KILLER
RV308	1-224-970-11	(B) 4.7k, adjustable; R. BKG

Ref. No.	Part No.	Description
RV309	1-224-970-21	(B) 4.7k, adjustable; B. BKG
RV310	1-224-970-31	(B) 4.7k, adjustable; G. BKG
RV311	1-224-642-XX	(B) 1k, adjustable; U. PHASE
RV501	1-223-102-00	(B) 120, adjustable; H. CENT
RV551	1-224-972-00	(B) 20k, variable; V. HOLD
RV552	1-224-645-XX	(B) 10k, adjustable; V. SIZE
RV553	1-224-642-XX	(B) 1k, adjustable; V. CENT
RV571	1-224-646-XX	(B) 22k, adjustable; PIN
RV601	1-224-642-XX	(B) 1k, adjustable; 22V ADJ
RV701	1-224-640-XX	(B) 330, adjustable; G. DRIVE
RV702	1-224-640-XX	(B) 330, adjustable; B. DRIVE
RV721	1-226-053-00	(C) 3.3M, adjustable; SCR N
RV901	1-226-106-00	(B) 50k-A, variable; VOLUME
RV902	1-224-259-XX	(B) 5k, variable; PICTURE
RV903	1-224-619-00	(C) 5k, variable; BRIGHT
RV904	1-224-259-XX	(B) 5k, variable; COLOUR

MISCELLANEOUS

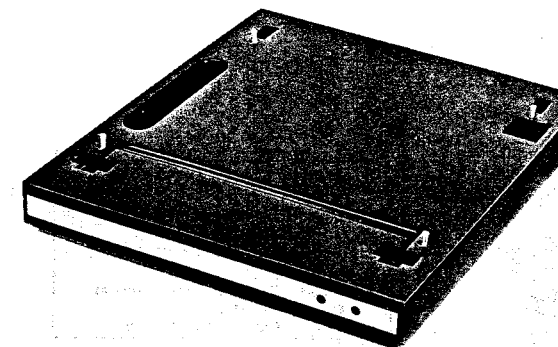
CN901	(A) 1-561-285-00	(1) Socket, AC
CN902	(A) 1-526-584-12	(E) Socket, SONY BATTERY BP-80E
CN903	(A) 1-507-465-00	(C) Socket, EXT BATTERY DC IN 12V/24V
DC851	(A) 1-453-050-31	(S) High-voltage Rectifier Block
F551	(A) 1-532-235-00	(B) Fuse, 0.315AT
F601	(A) 1-532-465-00	(B) Fuse, 3.15AT
F602	(A) 1-532-078-00	(A) Fuse, 1AT
F901	(A) 1-532-279-00	(B) Fuse, 0.5AT
J101	1-507-473-XX	(B) Jack, AUDIO IN
J102	1-507-473-XX	(B) Jack, AUDIO OUT
J103	1-509-431-00	(1) Connector, BNC; VIDEO IN
J104	1-509-431-00	(1) Connector, BNC; VIDEO OUT
J905	1-507-047-00	(B) Jack, earpiece
NL721	1-519-108-XX	(B) Lamp, neon
NL901	1-519-132-XX	(C) Lamp, neon; POWER
S101	1-513-217-21	(B) Switch, slide; 75Ω
S201	1-514-897-00	(B) Switch, pushbutton, PAL/SECAM

• ⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Note: The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

BP-80E

(Optional Accessory)



BATTERY PACK

Ref. No.	Part No.	Description
S901A	⚠ 1-516-390-11	ⓓ Switch, pushbutton; POWER
S901B	1-516-658-00	ⓔ Switch, miniature; POWER
S902	⚠ 1-516-046-00	ⓑ Switch, slide; OPERATE/CHARGE
S903	1-516-251-00	ⓓ Switch, pushbutton; DEGAUSS
S904	⚠ 1-516-174-00	ⓒ Switch, VOLTAGE SELECTOR
SG721-724	1-519-063-XX	Ⓐ Spark Gap
SP901	1-502-655-00	ⓓ Speaker, 32Ω
V901	⚠ 8-737-701-05	Ⓨ Picture Tube, 230BWB22
X301	1-527-274-00	ⓐ Crystal
	1-452-032-00	Ⓐ Magnet, disk; 10mm dia.
	1-452-094-00	ⓑ Magnet, rotatable disk; 15mm dia.
	1-452-126-00	ⓑ Magnet, BMC
	1-509-545-00	Ⓐ Socket, picture tube
	⚠ 1-526-585-00	ⓓ Cap, anode
	⚠ 1-533-102-XX	ⓑ Holder, fuse
	1-536-401-XX	Ⓐ Terminal Strip, 2L1

PACKING MATERIALS AND ACCESSORIES

Part No.	Description
1-504-034-32	ⓑ Earpiece, ME-20B
⚠ 1-551-645-11	ⓔ Mains Lead
3-701-352-00	Ⓐ Bag, polyethylene
3-793-520-82	Ⓐ Card, warranty
4-325-044-00	ⓑ Sheet, protection
4-325-045-00	ⓒ Cushion, right
4-325-046-00	ⓒ Cushion, left
4-331-301-00	ⓔ Carton
4-495-729-11	ⓐ Manual, instruction

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SPECIFICATIONS

Semiconductors:	10 transistors, 10 diodes (incl. 2 light-emitting diodes)
Output Voltage:	24V DC
Recharging Time:	Approx. 10 hours
Operating Time:	3 hours
Capacity:	5.7 A/h (nominal)
Batteries:	3FX3S 6V 5.7 A-HR 4 pieces
Dimensions:	Approx. 290 (w) x 47.5 (h) x 335 (d) mm 11 ³ / ₈ (w) x 1 ⁷ / ₈ (h) x 13 ¹ / ₄ (d) inches
Weight:	Approx. 5.5 kg (12 lb 2 oz)
Accessory Supplied:	Instruction Manual

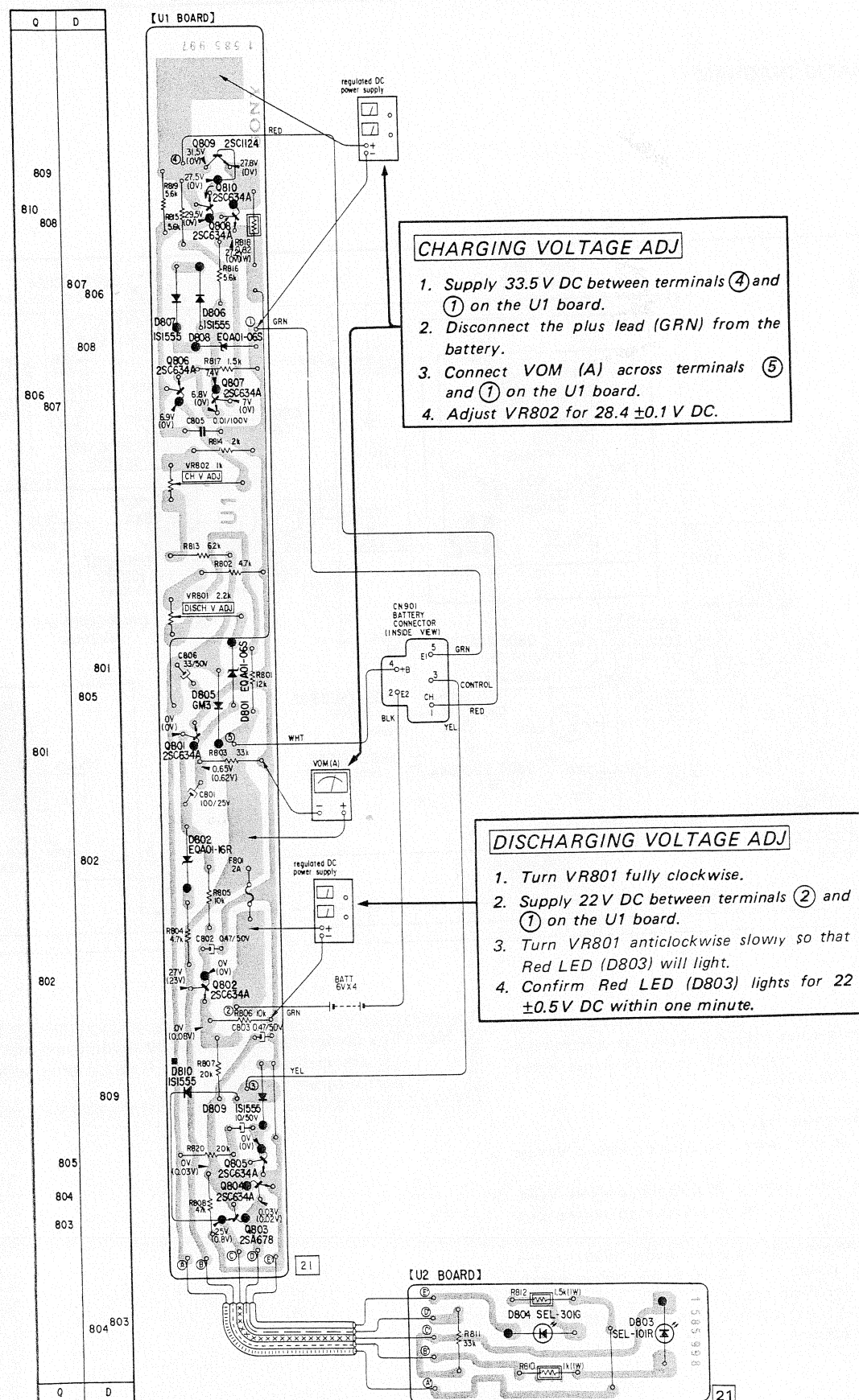
A

B

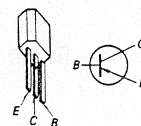
C

D

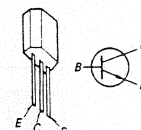
1. U1 and U2 BOARDS MOUNTING DIAGRAM
- Conductor Side -



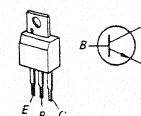
2SA678



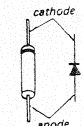
2SC634A



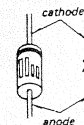
2SC1124



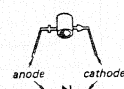
1S1555



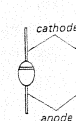
EQA01-06S
EQA01-16R



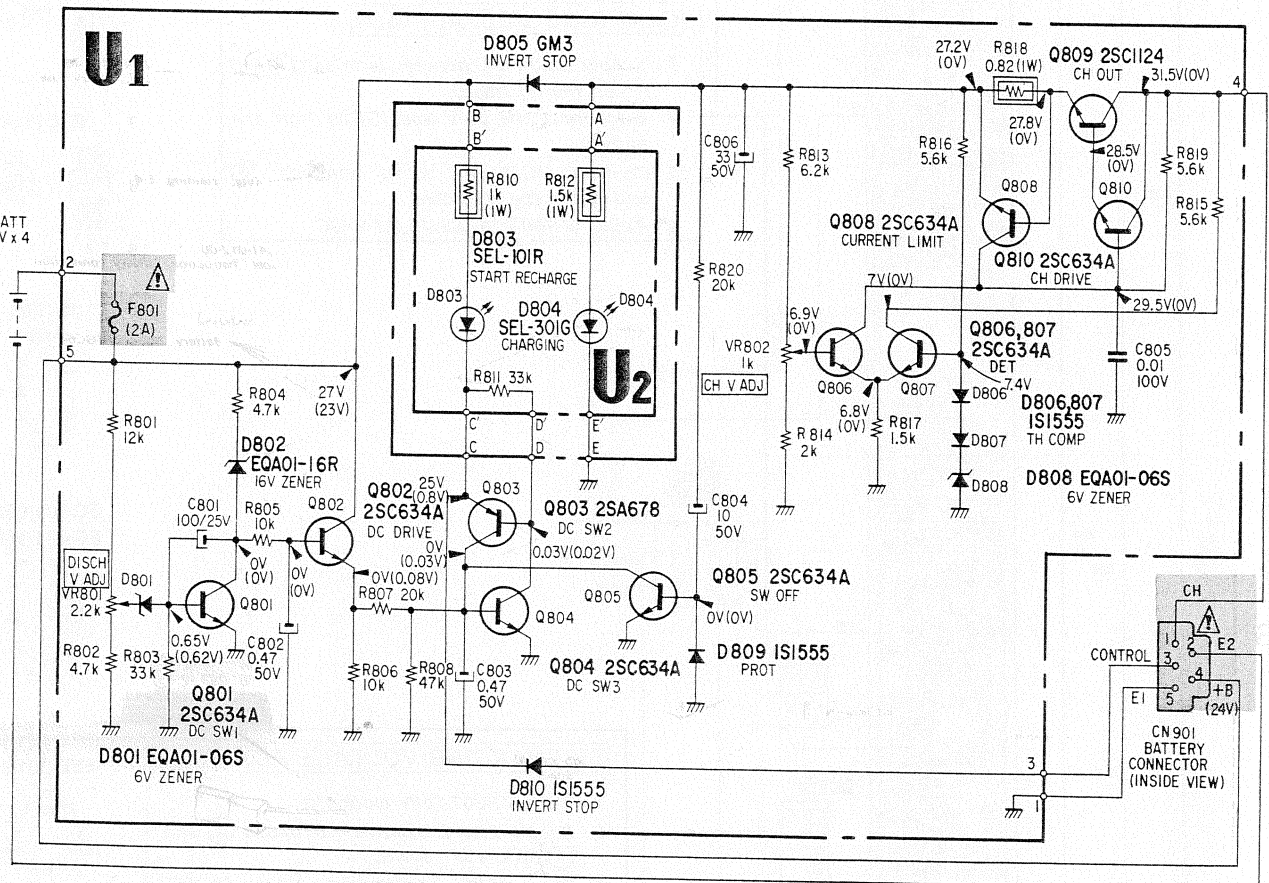
SEL-101R
SEL-301G



GM3



2. SCHEMATIC DIAGRAM



Note:

- All capacitors are in μF unless otherwise noted *pF: μF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, $\frac{1}{4}\text{W}$ unless otherwise noted. k Ω : 1000 Ω , M Ω : 1000k Ω
- --- : chassis ground.
- --- : nonflammable resistor.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 20,000-ohm-per-volt VOM.
- Voltage variations may be noted due to normal production tolerances.
- Voltages of -V are with the power switch (S901) in the PVM-9000ME pulled on and with the charge switch (S902) set at CHARGE position.
- Voltages of (-V) are with the charge switch (S902) set at OPERATE position.

Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

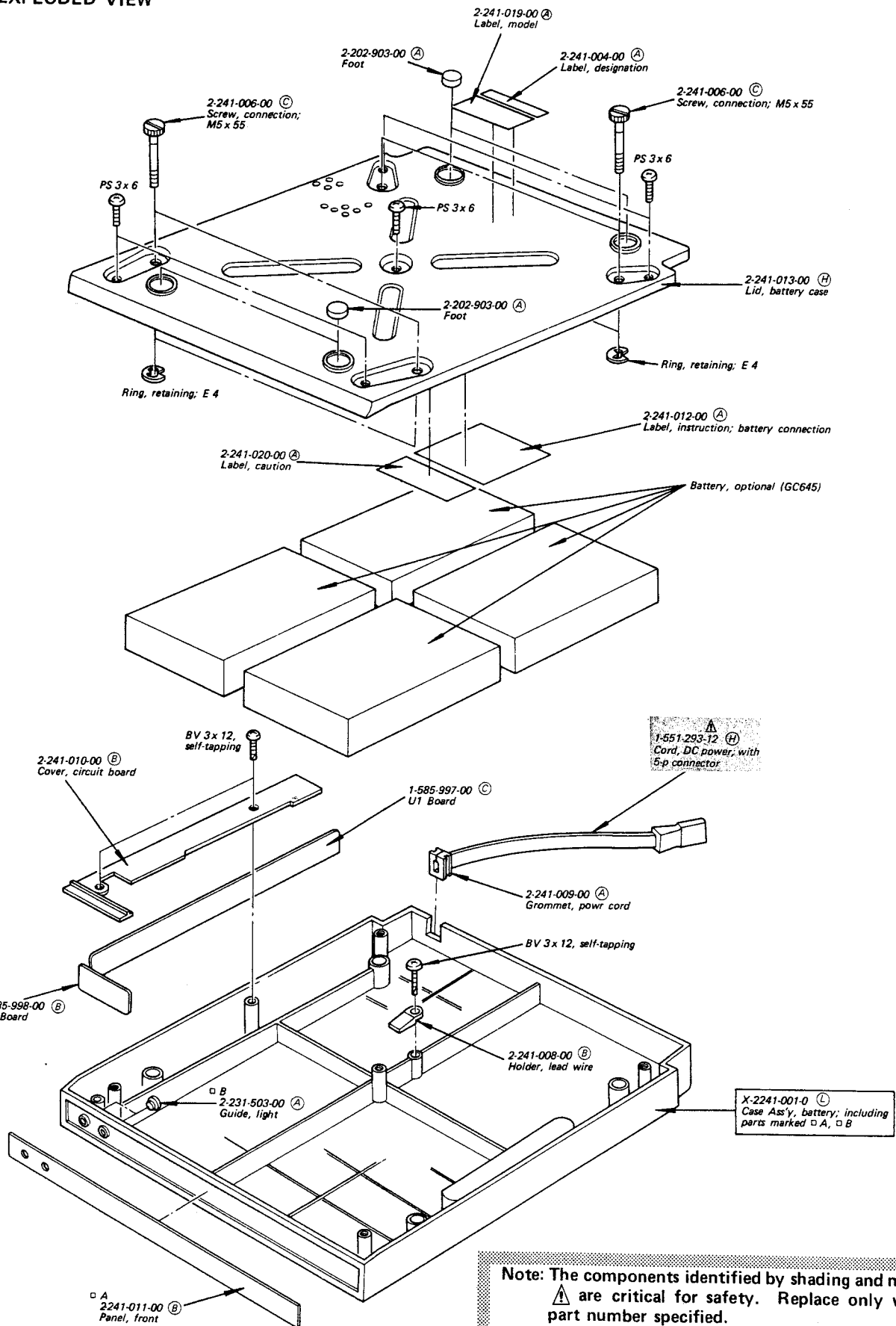
A

B

C

D

3. EXPLODED VIEW



4. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
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CIRCUIT BOARDS

1-585-997-00	(C) U1 Board
1-585-998-00	(B) U2 Board

SEMICONDUCTORS

Transistors

Q801,802	(B)	2SC634A
Q803	(C)	2SA678
Q804-808	(B)	2SC634A
Q809	(C)	2SC1124
Q810	(B)	2SC634A

Diodes

D801	(B)	EQA01-06S
D802	(B)	EQA01-16R
D803	(B)	SEL101R
D804	(B)	SEL301G
D805	(C)	GM3
D806,807	(B)	1S1555
D808	(B)	EQA01-06S
D809,810	(B)	1S1555

Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description
----------	----------	-------------

CAPACITORS

C801	1-121-416-11	(B) 100μF 25V electrolytic
C802,803	1-121-726-11	(A) 0.47μF 50V electrolytic
C804	1-121-738-11	(A) 10μF 50V electrolytic
C805	1-108-626-12	(A) 0.01μF 100V mylar
C806	1-121-405-11	(B) 33μF 50V electrolytic

RESISTORS

Common 1/4W carbon resistors are omitted.
Check schematic diagram for their values.

R810	1-213-143-11	(A) 1 kΩ 1W metal oxide (nonflammable)
R812	1-213-145-11	(A) 1.5 kΩ 1W metal oxide (nonflammable)
R818	1-212-360-11	(A) 1 Ω 1W metal oxide (nonflammable)
VR801	1-224-643-XX	(B) 2.2 kΩ-B, adjustable; DISCH V ADJ
VR802	1-224-642-XX	(B) 1 kΩ-B, adjustable; CH V ADJ

MISCELLANEOUS

 1-532-203-00  Fuse, 2A

 1-551-293-12  Cord, DC power; with 5-p connector

PACKING MATERIALS AND ACCESSORIES

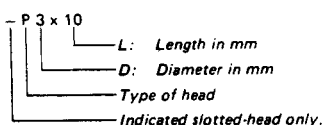
Part No.	Description
2-241-016-00	(B) Bag, protection
2-241-018-00	(B) Cushion
2-241-022-00	(D) Carton
4-495-657-11	(C) Manual, instruction

1/4 WATT CARBON RESISTORS

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-476-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-477-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-478-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-479-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-480-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-481-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-482-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-483-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-484-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-485-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-486-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-487-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

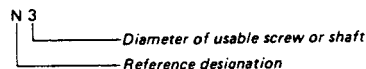
HARDWARE NOMENCLATURE

Screw:



Unless otherwise indicated, it means cross-recessed head (Phillips type).

Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazier-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

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